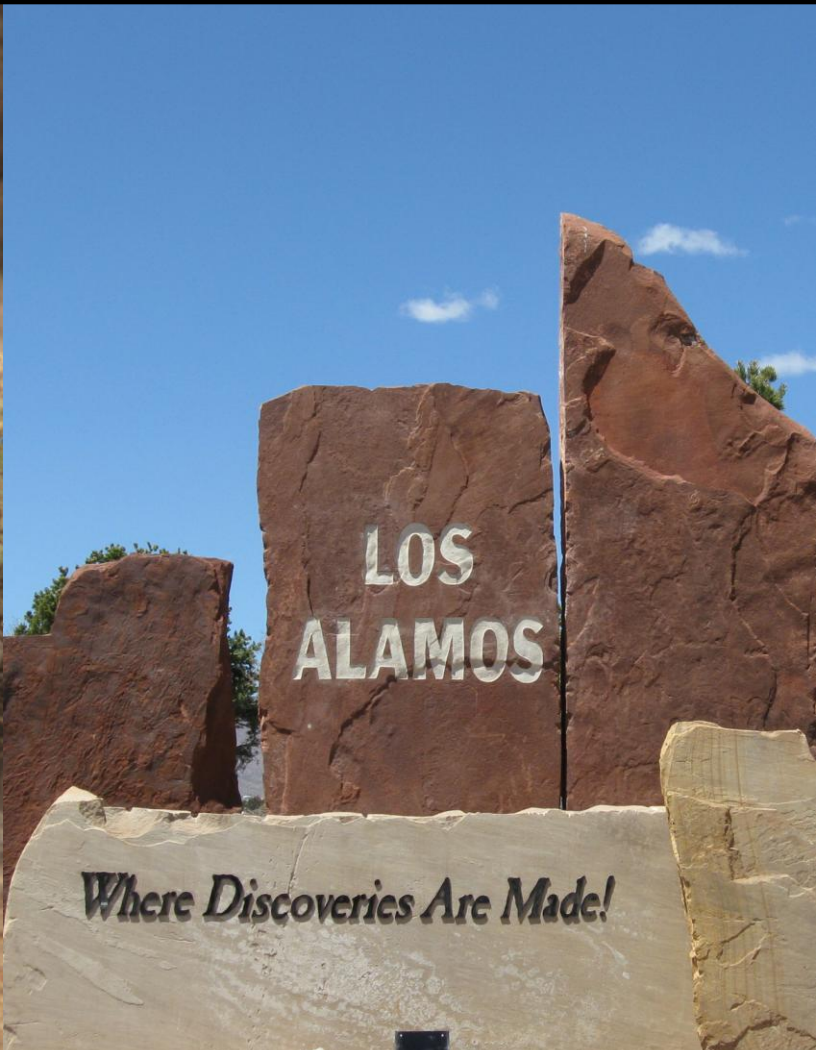




STANDARDS OF COVER



*We, the Los Alamos County Fire Department,
are committed to the safety and welfare of everyone in our diverse community.
We promise exceptional services in the preservation of
life, the environment, and property.*



Facilitated by



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Public Safety
Excellence

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March 2010

Introduction

The purpose of this document is to serve as an overall blueprint for the Los Alamos Fire Department's (LAFD or Department) mandate to protect lives, the environment, and the property of the public it serves. The LAFD mission statement is an integral part of that blueprint in that it provides a succinct explanation as to our purpose.

LAFD MISSION STATEMENT

"We, the Los Alamos County Fire Department, are committed to the safety and welfare of everyone in our diverse community. We promise exceptional services in the preservation of life, the environment, and property."

The strategies employed to achieve our mission are defined throughout this and other supportive documents. LAFD's Standards of Cover was developed with life safety as the overall objective while keeping the following risk management statement at the forefront of our ambition.

"We will risk a lot to save savable lives. We will risk a little to save savable property. We will risk nothing to save that which has already been lost."

Due to the nature of our department, a unique challenge is presented to us as service providers in as much as we are in a cooperative agreement with the Department of Energy (DOE)/National Nuclear Security Administration (NNSA) to provide fire protection service to the Los Alamos National Laboratory (LANL). Los Alamos County (LAC or County) will use guidance from National Fire Protection Association (NFPA) documents in developing LAFD's overall policies and practices. Certain issues involving national security arise when discussing DOE facilities; therefore discussion may be limited as appropriate.

When developing a "Standards of Cover" document for the LAFD, wildland urban interface response must be considered. During wildland fire season, typically from April to September, the entire community is designated as "High Risk" regardless of neighborhood demographics. With thousands of acres of wildland encroaching on several neighborhoods within Los Alamos, a special mitigation project has been implemented and is ongoing to reduce the hazard to the community.

The remainder of this document is intended to provide a snapshot of the department's level of service objectives to the County and should be regarded as a "working document" subject to the dynamic nature of the fire service as technologies and practices change to accommodate the wants and needs of the customers we serve. Certain assumptions must therefore be made including the assumption that response travel times to critical LANL facilities begin when an apparatus leaves a fire station or when it is announced that a particular unit is "En-route" and ends when an apparatus has arrived at a staging area, or security barrier from which access to the facility may be delayed while appropriate security and/or safety protocols are followed.

This document will include a critical analysis of historical data, existing and proposed deployment strategies, distribution and concentration of resources based on time parameters, identification of community risks and expectations, and collection of data on

reliability of response. The governing body for the accreditation process is the Commission on Fire Accreditation International (CFAI).

The overall assessment evaluates the Department's ability to provide adequate resources to respond to an "all-risk" environment including fire and non-fire incidents such as emergency medical, hazardous material, technical rescue, and disasters both natural and manmade.

The methodology used was a systems approach to deployment rather than the one-size-fits-all prescriptive formula. An evaluation was conducted to match local needs or risks and expectations with expected outcomes. The data contained in this Standard of Cover document should provide the leaders of Los Alamos with the information necessary to understand and make decisions upon an effective delivery system for an "all-risk" environment.

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Executive Summary

The purpose of the Standards of Cover (SOC) is to define and measure the appropriate level of service based on a comprehensive study of the Department's historical performance, deployment strategies and the community risk factors in order to determine the capability of its response system.

This document outlines the risk capabilities of the LAFD and conforms to the 5th edition of the CFAI Standards of Cover guidelines.

Since the LAFD is under agreement with NNSA to protect LANL, this SOC must measure not only the service needs and delivery to the community, but to a high-hazard government facility which due to the nature of its mission is highly protected and secured with fixed protection and a 600+ person armed guard force.

With 5 fire stations and 130 shift firefighters, the LAFD is not staffed and configured to protect the community of 18,000 but is based on NNSA needs; thus we have the ability to dispatch and respond units in a greater value than most communities our size. In addition, our approximate 2,000 per year call volume allows the Department the latitude to dispatch additional resources and adjust the number of resources needed based on enroute information or upon arrival and size up by the first unit on scene.

As the mission and environment of the Laboratory, and their Fire Service Baseline Needs Assessment dictate, the introduction of new federally owned fire stations and additional personnel and equipment will be modified. The County does not anticipate any significant growth which would require the addition or relocation of existing County owned fire stations, or the addition of personnel or equipment.

We will face the same economic challenges as the rest of the nation and since 75% of our funding is through federal allocation we must be prepared to adapt if funding is modified.

This SOC describes our service area, the risks we must protect within the community and at LANL, the services we provide, our capabilities, and our performance objectives and measures. The LAFD must assess risks based upon the potential frequency (probability of an incident occurring) and consequence (potential damage should an event occur). Risk management is the analysis of the chance of an event occurring and the resulting damage that could occur as a result of the event. The challenge in community risk management does not lie solely in the work necessary to assess the probabilities of an emergency event in a community, but in the political arena as well. It is the policy makers who will determine the level of service to be delivered to the area being served. The Community Risk Assessment identifies both fire and non-fire risks in each response district and places the risk in a risk category.

The Risk categories include:

Very high risk includes a high probability and maximum consequence. This level of risk has the potential for a high level of life and property loss as well as significant property damage across the entire geographic area. Maximum risks will certainly have a devastating impact on the community's ability to maintain its commercial, residential and industrial tax base.

High risk level has a low probability of occurrence and a high level of consequences. This risk level has the potential for high to moderate life and property loss. A significant risk may vary in magnitude and may create varying threats to those people in the immediate area of impact.

Moderate risk has a high probability of occurrence and a low level of consequence. This level of risk can present a potential for life and property loss but these are usually limited to only those areas, properties and residents in the immediate threat zone.

Low risk has a low probability of occurrence and a low level of consequence. This risk level presents little threat to the community's ability to function unless the community does not have adequate resources allocated to handle this level of risk. The occurrence of this type of event is infrequent and presents little, if any, potential for significant life and property loss or damage.

The SOC consists of three key elements:

Distribution: Station and resource locations needed to insure rapid response

Concentration: Spacing of multiple resources arranged so that an initial "effective response force" can arrive on scene within sufficient time frames

Staffing levels: Numbers of personnel and their task assignments

Through the Cooperative Agreement, "total authorized shift fire-fighting staff level is 130", "minimum staffing will be 37"; the minimum shift fire-fighting staff at Station 1 is 12 and the minimum shift fire-fighting staff at Station 5 is 5". County Fire Stations 4 and 6 are staffed at a minimum of five; a Company Officer, Driver Engineer, and a Firefighter on the engine company and two Firefighters on the medic unit. Station 3 (located in White Rock) is staffed with 10 using the same staffing methods for 2 response companies.

LOS ALAMOS COUNTY VISION STATEMENT

Los Alamos is a unique combination of science and setting. We will preserve our safe, small town atmosphere, the natural surroundings and our past. We prize excellent schools, outdoor recreation, and the relaxed pace of life where shopkeepers and neighbors know your name. We will protect these treasures, even while we envision changes that will add to our quality of life.

DEPARTMENT OF ENERGY MISSION STATEMENT

The Department of Energy's overarching mission is to advance the national, economic and energy security of the United States; to promote scientific and technological innovation in support of that mission; and to ensure the environmental cleanup of the national nuclear weapons complex. The Department's strategic goals to achieve the mission are designed to deliver results along five strategic themes:

- 1. Energy Security:** Promoting America's energy security through reliable, clean, and affordable energy.
- 2. Nuclear Security:** Ensuring America's nuclear security.
- 3. Scientific Discovery and Innovation:** Strengthening U.S. scientific discovery, economic competitiveness, and improving quality of life through innovations in science and technology.
- 4. Environmental Responsibility:** Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.
- 5. Management Excellence:** Enabling the mission through sound management.

Source: US Department of Energy website (www.doe.gov) 10/30/06

NATIONAL NUCLEAR SECURITY ADMINISTRATION (NNSA) MISSION STATEMENT

The **Mission of the Administration** shall be the following:

1. To enhance United States national security through the military application of nuclear energy.
2. To maintain and enhance the safety, reliability, and performance of the United States nuclear weapons stockpile, including the ability to design, produce, and test, in order to meet national security requirements.
3. To provide the United States Navy with safe, militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of those plants.
4. To promote international nuclear safety and nonproliferation.
5. To reduce global danger from weapons of mass destruction.
6. To support United States leadership in science and technology.

Source: NNSA website (www.nnsa.doe.gov) 10/30/06

LOS ALAMOS NATIONAL LABORATORY MISSION STATEMENT

Los Alamos National Laboratory is a national security science laboratory. The Laboratory's mission is to develop and apply science and technology to

- Ensure the safety, security, and reliability of the US nuclear deterrent.
- Reduce global threats, and
- Solve other emerging national security challenges.

Source: Los Alamos National Laboratory website (www.lanl.gov) 3/9/10

A. Description of Community Served

History of Los Alamos Fire Department

The LAFD is currently the third largest career fire department in the State of New Mexico and the only department with an ISO (Insurance Services Office) rating of 1 in the state. The Department provides fire, rescue, emergency medical, public education, and life safety services to the citizens and visitors of LAC and LANL.

LAC encompasses 109.5 square miles and houses approximately 18,000 residents and is supplemented by over 9,000 daily commuters. The LAFD was originally organized under the Manhattan Project in April of 1943. At that time, it consisted of 7 civilian firefighters and 25 volunteer firefighters. In September 1943, the firefighter functions were taken over by the military. The Fire Department was operated under the US Atomic Energy Commission and the DOE, who employed federal government employees for this service until 1988. At that time, the DOE awarded a contract to the County to hire personnel and provide fire and EMS service for LANL and the community. The contractual relationship between the DOE and County continued through November 30, 1997, with two consecutive contracts. On December 1, 1997, DOE transitioned the contract to University of California (UC) and on June 1, 2006, the contract was transitioned again to Los Alamos National Security, LLC (LANS). LANS currently operates LANL for the NNSA of the DOE. On October 1, of 2008, the County, the DOE and NNSA entered into a five-year Cooperative Agreement (CA) for the funding and operation of LAFD. CA #DE-FC52-08NA28090 became effective on October 1, 2008, and establishes an estimated project cost through September 30, 2013 and the cost-sharing arrangement. The CA also includes a Statement of Objectives (SOO) and a Statement of Substantial Involvement (SSI) that define the requirements for fire protection. As a deliverable of the CA, LAFD provides monthly progress reports to the DOE/NNSA Service Center and meets with the DOE Project Officer and NNSA Program Manager on a regular basis to discuss these requirements.

LAFD currently operates with 150 budgeted positions, 139 uniformed and 11 civilian. LAFD has five operational fire stations, one training station, and an administration office. Response capability is provided by staffing 3 shifts with a minimum of 37 uniformed personnel per shift. Minimum staffing requirements are based on the LANL Baseline Needs Assessment (BNA) and the CA.

In 1998, LAFD added Advanced Life Support (ALS) to enhance its Emergency Medical Services (EMS) response capabilities. LAFD currently is staffed with 23 Paramedics, 41 Intermediates, and the rest of the operational personnel trained to the EMT-B level.

In the spring of 2000, LAFD experienced a 48,000 acre wildland fire. The Cerro Grande Fire had a tremendous effect on the community as 239 residential structures were lost along with several small structures on LANL property. Citizens of the community were asked to evacuate for over two weeks with everything being shut down including LANL. As a result of the fire, LAFD was provided funding to acquire a new fleet of emergency response vehicles including pumpers, tenders, heavy rescues, mini-tankers, with most having compresses air foam capability to enhance wildland firefighting capabilities.

LAFD has a Technical Rescue Team (TRT) that consists of 43 active members. TRT members receive advanced training in high angle rescue, confined space rescue, structural collapse, and trench rescue.

LAFD currently is trained to the operational level for hazardous material response. We have ten personnel trained to the hazardous material technician level, with three at the specialist level. The enhanced level allows us to enhance the LANL's Hazardous Material Team who responds to incidents at LANL and the County. Future goals are to train enough personnel to the technician level so LAFD can have its own hazardous material team.

A replacement Fire Station 3 was constructed in 2007-2008. The 33,000 square foot complex is state of the art designed to meet DOE/NNSA requirements and enhances response capabilities to the community of White Rock and LANL facilities. The BNA has recognized the need for replacement of Fire Stations 1 and 5 which have the primary response to LANL. County-owned Stations 2, 4, and 6 have been remodeled to improve firefighter living conditions.

Governance

The Council of the Incorporated County of Los Alamos is the governing body of Los Alamos County and was created by the Los Alamos County Charter. The Council consists of seven members elected at large for four-year, staggered terms. Each year the Council elects a Chair and Vice-Chair from within its membership.

The power to incorporate as a County is established under a special provision of the New Mexico State Constitution. Los Alamos County has both county and municipal authority and powers. Los Alamos County Council has adopted a Home Rule Charter which allows the County to depart from certain statutory requirements. Under the Charter, the Council is the governing body of the County.

Day-to-day operational activities are overseen by a County Administrator who coordinates the duties and responsibilities of the Department Directors including the Fire Chief. The LAFD submits a budget to County Council each year for approval and expenditures are currently paid through a county account that is funded through the CA. In addition, LAFD applies for and receives state funding from the New Mexico State Fire Protection Fund Distribution Act and the EMS Fund Grant. The LAFD budget is primarily for personnel costs and small equipment as the CA pays the costs associated with apparatus, large equipment, and DOE-owned fire stations, directly. The CA, LANL Facility Hazard Analysis, the DOE BNA and community needs dictate the response capabilities of the department and are addressed in the department objectives and funding requests.

Due to the CA, the LAFD reports to NNSA of the DOE and the County; however, the LAFD is chartered by the Los Alamos County so the County Administrator is the Authority Having Jurisdiction (AHJ) over the department. The NNSA site manager is AHJ for overall operations of the DOE/LANL property.

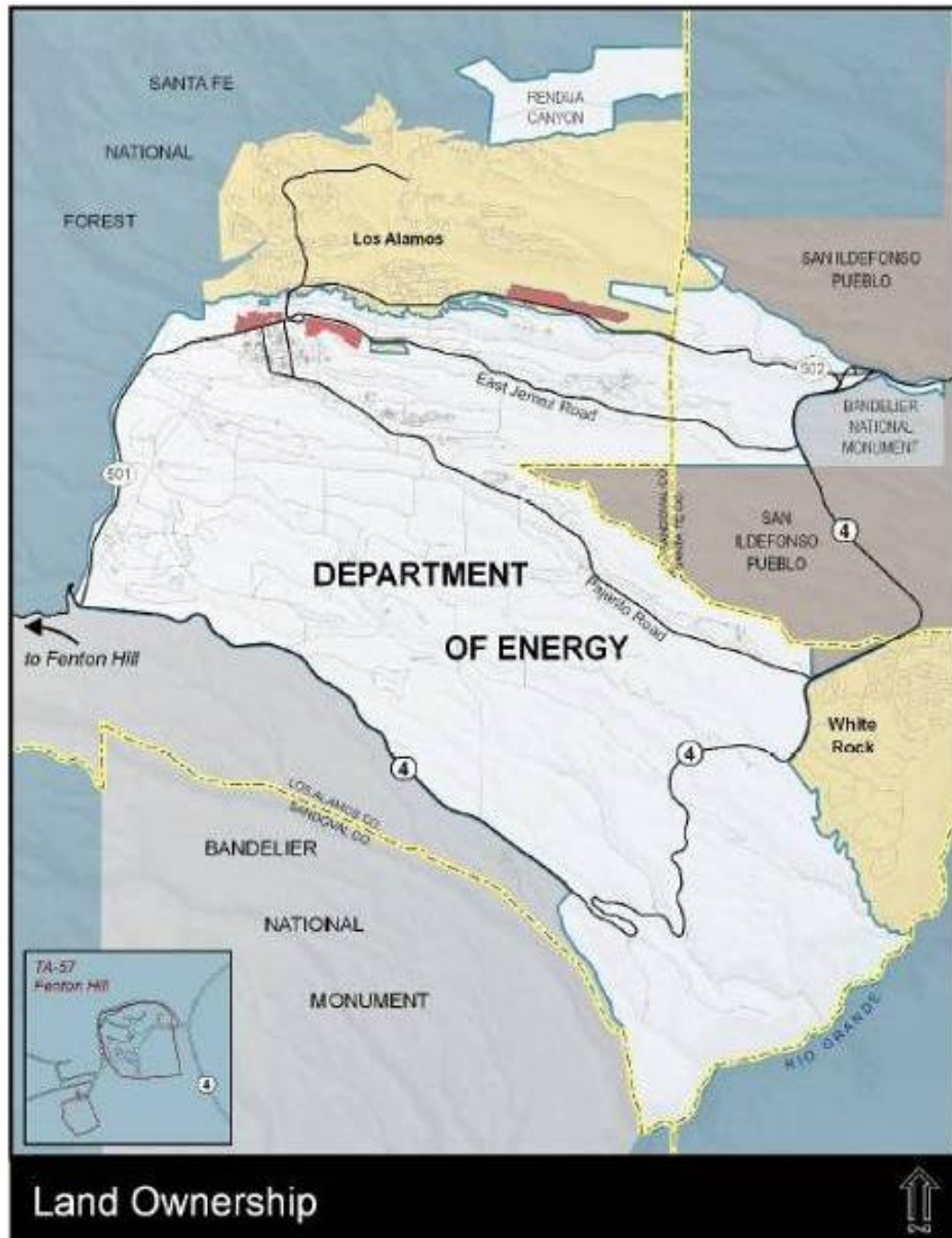
LANL was created in 1942 by the U.S. Army Manhattan Engineer District with the initial mission to develop the world's first nuclear fission weapon. The relative isolation of Pajarito Plateau was considered ideal for this mission when the site was selected. At the



end of WWII, the Atomic Energy Commission received control of LANL from the Army and renewed the contract with UC to maintain US pre-eminence in the field of atomic energy. LAC was created in 1949 and chartered in 1968 in response to the Atomic Energy Communities Act of 1954 that required the privatization of the community facilities surrounding national research laboratories.

The Laboratory (LANL) is located in Los Alamos County. The approximately 40-square mile Laboratory site is situated on the Pajarito Plateau, which consists of a series of finger like mesas (ridges) separated by deep east to west oriented canyons cut by intermittent streams. Most Laboratory and community developments are confined to mesa tops. The surrounding land is largely undeveloped, and large tracts of land north, west and south of LANL are administered by the Los Alamos County, Santa Fe National Forest, and Bandelier National Monument. The San Ildefonso Indian Pueblo borders LANL to the east.



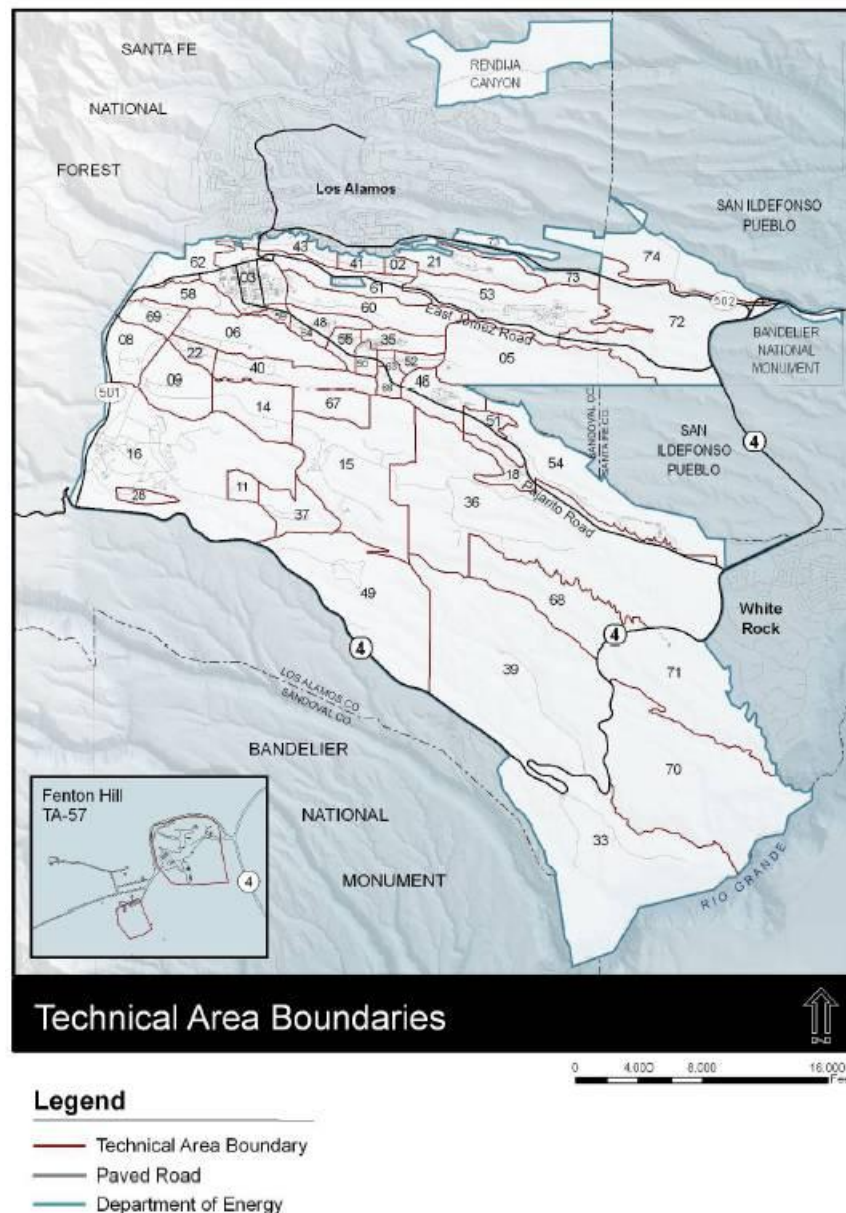


Legend

Department of Energy	Leased Land (owned by DOE):
Bandelier National Monument	-Airport
Private Land	-Landfill and Concrete Plant
San Ildefonso Pueblo	-Research Park
U.S. Forest Service	-ICON Facility Land at TA-46
	Private Land (within DOE area):
	-Ice Rink
	-Royal Crest Mobile Homes



LANL is divided into technical areas that are used for building sites, experimental areas, and waste management locations. LANL is divided into 49, active and separate, Technical Areas (TA) sites with location and spacing that reflects the sites historical development patterns, regional topography, and functional relationships. There are approximately 925 permanent structures, 362 temporary structures (trailers, transportables) and 873 other structures and facilities. However these uses only account for a small part of the total land area. Development is limited by steep slopes and by the need for security and safety buffers because of the type of work performed. There are approximately 100 miles of paved roads and an estimated 168 miles of unpaved roads. At the end of FY 2009 LANL had approximately 9.5 million gross square feet of space including leased facilities with several other large facilities currently under construction.



Geography

The County boundaries are as follows:

- Northern Boundary - Sandoval and Rio Arriba Counties and Santa Clara Pueblo
- Eastern Boundary - Santa Fe County and San Ildefonso Pueblo
- Southern Boundary - Sandoval County to Bandelier
- Western Boundary - Sandoval County

Los Alamos is located at 7,355 feet above sea level at the base of the Pajarito Mountains. It is located in the North-Central part of New Mexico on the eastern slope of the Pajarito Plateau with 13 steeply sloped canyons. Flat table topped hills (mesas) with steep sloped canyons in between characterize the topography. The topography of the County dictates that population centers are spread out and accordingly, times to reach these population centers require careful placement of emergency facilities. The unique layout of the finger like mesa tops presents a unique response challenge as the end of these fingers or mesas can be reached on one way in, one way out roads. In other words, responders must go back on the same roads to get to a main road or artery to access another part of the County or LANL property.

The Fire District covers 109.5 square miles of County and LANL property. The actual LAFD response area is larger as LAFD responds out of the County east and west to the Rio Grande River.



Topo map of Los Alamos showing fingers (mesas)



Climate

Los Alamos has a temperate mountain climate with four distinct seasons. Spring tends to be windy and dry. Summer begins with warm, often dry, conditions in June, followed by a two-month rainy season. In the autumn there is a return to drier, cooler, and calmer weather. In the winter, mild altitude storms drop far enough south to keep the ground covered with snow for about two months. In July, the warmest month of the year, the temperature ranges from an average daily high of 81° F to an average daily low of 55° F. The extreme daily high temperature in the record is 95° F. In January, the coldest month, the temperature ranges from an average daily high of 40° F to a low of 17° F. The extreme daily low temperature in the record is -18° F. The large daily range in temperature results from the site's relatively dry, clear atmosphere, which allows strong solar heating during the daytime and rapid radiative cooling at night. Although relative humidity can vary considerably over 24 hours, monthly average values vary little during the year. Relative humidity ranges from a low of 39% in June to a high of 56% in December, averaging 51% over the entire year. Absolute humidity, a better indicator of atmospheric moisture content, ranges from a low of 2.4 g of water/m³ of air in January to a high of 8.7 g/m³ in July and August, when moist, subtropical air invades the region during the rainy season. Fog in Los Alamos is very rare, occurring less than five times a year on average. The average annual precipitation (rainfall plus the water-equivalent of frozen precipitation) is 47.6 cm (18.7 in.). However, the annual total fluctuates considerably from year to year; the standard deviation of these fluctuations is 12.2 cm (4.8 in.). The lowest recorded annual precipitation is 17.3 cm (6.8 in.) and the highest is 77.1 cm (30.3 in.). The maximum precipitation recorded for a 24-hour period is 8.8 cm (3.5 in.). The maximum 15-min precipitation in the record is 2.3 cm (0.9 in.).

Los Alamos receives substantial snow falls beginning in early November and lasting until mid March. The largest reported snowfall occurred in 1987 when 57" of snow was reported over a 48 hour period. Most LAFD vehicles are equipped to handle the snow as the engines and medic units, smaller staff and mini tenders are equipped with all-wheel drive. One of the response areas in the winter is the Pajarito Ski Area. LAC and LANL are equipped with some of the best snow removal equipment in New Mexico which allows the units to be able to respond in the winter months in a timely manner.

Lightning is very frequent in Los Alamos. In an average year Los Alamos experiences 61 thunderstorm days a year, about twice the national average. (A thunderstorm day is defined as a day on which thunder is heard or a thunderstorm occurs). These summer lightning strikes are known to start occasional wildland and snag fires, especially in the dry, windy spring months. These small fires are usually extinguished by LAFD wildland response personnel in our jurisdiction along with assistance from the Santa Fe National Forest Service and National Park Service resources. This will be discussed in more detail in the wildland firefighting section. Only in the southeastern part of the country is this frequency of lightning strikes exceeded.

Los Alamos winds are generally light, having an annual average of 2.5 m/s (5.5 mi/h). However, the period from mid-March to early June is apt to be windy. During this windy period, sustained wind speeds exceeding 4 m/s (8.8 mi/h) occur 20% of the time during



the daytime, and the daily maximum wind gust exceeds 14 m/s (31 mi/h) about 20% of the time. The highest wind gust on record is 34.4 m/s (77 mi/h). High winds are associated with frontal passages, thunderstorms, and mid-latitude storm systems. No tornadoes are known to have touched ground in the Los Alamos area; however, funnel clouds have been observed in Los Alamos and Santa Fe Counties. At this time we do not have flooding concerns in Los Alamos due to the unique topography and sloping canyons.

Housing Background

The housing background anticipates future housing needs resulting from projected increases in household formation due to changing household types, employment increases or changes in the level of the community.

The following are principal findings of this section:

- ✓ The average annual population change between 1980 and 1990 was .29%, 1990-2000 was .13%, and 2000-2008 was .13%.
- ✓ Population in 1980-17,599; 1990-18,115; 2000-18,344; and 2008-18,150.
- ✓ From 1990 to 2007, LAC was mostly comprised of Anglos. This majority is declining, 77% in 2007 were Anglo, down from 82.1% in 2000 and 94% in 1990. Second largest race is Hispanics, which makes up of 14.3% of the total population, up from 11.7% in 2000 and 11% in 1990. The Asian population is the third largest with 5.8% in 2007, 3.8% in 2000 and 0.2% in 1990.
- ✓ There are segments of the population that have special needs for housing. In 2007, according to the Census Bureau, 576 individuals in our community were below the federal poverty level, up from 480 in 2000.
- ✓ The 2000 Census listed 7,937 housing units, 5,894 of which are owner occupied and 1,603 of which are renter occupied. The housing unit count increased by 372 over this ten year period, an average of 37 units per year. The number of renter occupied units was down by 243 from 1990 while the number of owner-occupied units was up by 527.
- ✓ Total number of existing units in 2009 was estimated at 8,343. The count was done in two ways. First, the 7,937 housing units estimated by the census in 2000 were subtracted by the 357 units (duplex and quads) destroyed in the Cerro Grande fire. The total number of new residential units permitted from 2000 through 2008 was added to the total.
- ✓ Single family detached 5,160, townhomes 884, duplex 208, condominium (includes duplex) 1,022, apartments 187, and mobile homes 187.



Existing Conditions and Potential Development

Many of the structures in Los Alamos are legacy buildings from the Manhattan Project built in the mid 40's. Most of the early residential buildings in the town center have been removed, but some remain between 6th and 15th Streets. Many of the multi family and single family dwellings were built in the 50's. Development began in the 60's on the mesas and in White Rock. Quemazon and Ponderosa subdivisions were developed starting in the 90's. Much of the Downtown development was constructed in the late 50's, 60's and 70's with some additional buildings added over the years.

LAC is surrounded by Federal and Tribal property which has limited growth although DOE has transferred some property to the County for commercial development. Some of the transferred land has included property east of the airport and a large tract north of White Rock. The property east of the airport (Airport Basin Project) was developed allowing for the County and Los Alamos Public Schools (LAPS) to vacate prime real estate south of Trinity Drive.

Commercial

Most of the Commercial property is located in the Downtown area with some light industrial located on DP Road and at East Gate. There are three older school properties that have been converted into business property located around Los Alamos and a small pocket of commercial property located in White Rock near the entrance to Rover Boulevard off of State Road 4. The most significant revitalization is planned for the property that is being vacated south of Trinity Drive. LANL has numerous commercial occupancies throughout its property with the highest concentration in Technical Area 3 (TA 3).

Office Space

Office space is inter mixed within the commercial areas of Los Alamos and White Rock. There is an 83,000 square foot building that is owned by the Small Business Administration with the assistance of LAC at 4200 West Jemez Road that has four floors of mixed office and commercial space. LANL has numerous offices throughout its property with the highest concentration in Technical Area 3.

Agricultural

Agricultural activities are limited to small private properties in White Rock, La Senda and Pajarito. There is a small community horse stable area on the North Mesa that is used for housing of privately owned horses.

Open Space

Lying on the eastern flank of the Jemez Mountains, Los Alamos enjoys a mountain backdrop amid the orange cliffs of the Pajarito Plateau. The town spans three miles of the plateau, interrupted by deeply incised canyons that offer natural escapes within the town's limits.

Pueblo and Bayo Canyons provide the largest wooded section of uninterrupted open space in the County. A popular access point is through Acid Canyon at the Larry R. Walkup Aquatic Center on Canyon Road. The Western Perimeter area provides access to the Santa



Fe National Forest above the town site. Access can be found at the Quemazon and Mitchell Trailheads. Two undeveloped mesa top open spaces—Deer Trap Mesa and Kwage Mesa—offer outstanding vistas that take in the surrounding canyon, the Rio Grande Valley, and the Sangre de Cristo Mountains. White Rock Canyon offers spectacular scenery, rugged terrain, and unparalleled opportunities for solitude.

Transportation

County, State, and LANL roadways and sidewalks are used by motorists, bicyclists and pedestrians. There are several modes and means of transportation utilized within LAC, including the following: a local bus system (Atomic City Transit) that serves the Los Alamos and White Rock public; a LANL shuttle system that serves LANL employees; two regional bus systems including the North Central Regional Transit District (NCRTD) that connect Los Alamos to various northern New Mexico communities, and the Park n' Ride commuter bus system and New Mexico Rail Runner that connect Los Alamos to Espanola, Santa Fe, and Albuquerque. LAC also operates a small airport that serves primarily privately owned aircraft.

An extensive trail network is used by bicyclists, runners, and pedestrians to access parts of the community and the surrounding mountain and canyon areas as well as for personal enjoyment and exercise.

Highways and Other Access, Streets, and Roads

LAC includes the Los Alamos and White Rock communities located approximately 35 miles northwest of Santa Fe and Interstate Highway 25, the major north-south highway in New Mexico. Due to its location, LAC is viewed primarily as a destination, not a thoroughfare. Primary access to Los Alamos from Interstate 25 near Santa Fe is on US 84/285 and NM502 from the east. The lesser-traveled scenic route from Interstate 25 near Bernalillo is on NM550, NM4, and NM501 from the west. White Rock is accessed on NM4 from the east or west.

NM502 is the primary access to Los Alamos and also serves as the main route for approximately 9000 daily commuters during the work week. The NM502 corridor is approximately 4.2 miles as measured from the LAC line to Diamond Drive. In addition to serving commuters, this primary stretch of roadway also serves those who frequent the downtown area, residents who live in the area and visitors who are unfamiliar with the area. Surrounding roadways include Trinity Drive, Central Avenue, Diamond Drive, East Jemez Road, NM4, and NM502 east of the county line down the “Main Hill” road.

The NM502 corridor runs east to west from the LAC line and begins as a two lane highway with a speed limit of 50 miles per hour (mph) that drops to 40 mph near Airport Road and then drops to 35 mph near East Park. The speed limit for the remaining corridor is 35 mph all the way to Diamond Drive.

NM502 at the intersection of East Gate Drive is commonly known as East Road and is considered a major arterial that briefly widens to a three lane road until it reaches Airport Basin Road. At this location, it reduces back down to a two lane roadway. From East Gate

Drive until Arroyo Lane, NM502 is the primary arterial that serves adjacent businesses, restaurants, residential neighborhoods, parks, churches, LAC and school shop facilities, the airport, a fire station, a swimming pool, and hotels.

At the intersection of Arroyo Lane, the local name of NM502 is Trinity Drive where it continues as an arterial running east and west through the downtown area. This stretch of road widens to a five lane road with stop controlled intersections, traffic signals, left turn bays, and four foot sidewalks on both sides of the roadway. This stretch of road is a critical link to the downtown area but is also used by commuters to enter and exit town in order to get to LANL. This area of road serves numerous retail business and other entities, including but not limited to offices, hotels, parks, banks, governmental sites, community functions, gas stations, restaurants, fraternal organizations, residential neighborhoods, and offices.

On NM502 just west of Oppenheimer, Trinity Drive's right of way narrows down to four lanes without any turn bays but maintains the four foot sidewalks on both sides. The road then intersects Diamond Drive - the largest volume intersection in LAC. This is a signalized intersection that is vitally important for the connection between the downtown area, residential neighborhoods, and LANL.

Central Avenue is a minor arterial that runs in the east-west direction adjacent to Trinity Drive. It is a two lane road with sidewalks on both sides of the roadway. The majority of the roadway has been streetscaped with landscaping and curb extensions for pedestrian crossings and parking areas. Central Avenue cuts through the heart of the downtown area where pedestrian, bicycling, and transit activities are found.

Diamond Drive is a major north and south arterial. The primary intersections are controlled with traffic signals, and the roadway is a five lane road with six foot wide sidewalks on both sides of the roadway. In the southbound direction, Diamond Drive crosses the Los Alamos Canyon Bridge. This is the beginning of the DOE property and control. The first intersection on the south side of the bridge is known as Jemez Road. This is controlled by a new traffic signal that is the primary access to LANL. Because of the configuration of this signalized intersection, Diamond Drive turns into East Jemez Road that is locally known as the "Truck Route."

East Jemez Road becomes a two lane road that serves LAC's environmental services facility, a concrete plant, small mobile home park, and some LANL technical areas. After the mobile home park, the road takes on the characteristics of a minor arterial highway. This road winds downhill in a three lane stretch of roadway where two lanes head uphill in the westbound direction and one lane heads downhill in the eastbound direction. East Jemez Road returns to two lanes where it eventually intersects with NM4 at a signalized intersection that includes a right-turn slip lane towards the south to White Rock.

NM4 is a minor arterial highway that runs north and south through this stretch of LAC. It is a three lane road with no shoulders from the intersection of East Jemez Road, and continues until it merges with NM502 at a point that is locally known as the "Y". In this general area, there is a small parking lot used by people desiring to meet White Rock or Los Alamos residents in order to carpool.



NM502 from the intersection of NM4 to the LAC line is a narrow two lane road that has numerous horizontal and vertical curves as it climbs up the “Main Hill” where it exits Santa Fe County and enters LAC near the intersection of East Gate Drive.

Transportation – Level of Service (LOS) Definitions

Level of Service	Description
Free Flowing LOS A	Relatively free-flow. No restrictions to vehicle maneuverability or speed. Very slight delay.
Minimal Delays LOS B	Stable Flow. Some slight reduction in maneuverability and speed. Vehicle platoons form. Slight delay.
Acceptable Delays LOS D	Stable flow operation. Higher volumes. More restrictions on maneuverability and speed. Acceptable delay.
Tolerable Delays LOS D	Approaching unstable flow operation. Queues develop. Little freedom to maneuver. Tolerable delays for short periods.
Significant Delays LOS E	Unstable flow or operation. Low operating speed; momentary stops. This condition is common in peak hours. Congestion and lengthy delays.
Excessive Delays LOS F	Forced flow or operation. There are many stops. The highway acts as a vehicle storage area. Jammed. Gridlock.

Level of Service (LOS) is normally used to describe peak-hour transportation condition, which occur during the early morning or late afternoon when traffic is the heaviest.

Traffic engineers and planners use the LOS designations to evaluate the relative congestion of roads and highways. It is used to design what type of roadway improvements are required, such as the location and timing of traffic signals, the configuration of intersections, and the number of lanes for new streets. LOS is intended to provide an approximate measurement of roadway operations similar to the driver’s perceptions of traffic conditions.

The street system and land use in LAC has been shaped primarily by the geography and historical history of the area. Mountains and canyons, as well as land owned by LANL and the National Parks, have limited the areas available for development. Streets and roadways are classified according to their function.

Trinity Drive and Diamond Drive serve as the two primary arterial roadways within Los Alamos town site and Rover and Grand Canyon serve as major collectors within White Rock.

During the non-Commute hours of the day, traffic throughout LAC generally moves well, experiencing little delay. Most intersections are operating at a LOS of A to C, indicating that the street system is relatively non-congested. During the peak commute hours, most intersections continue to operate at LOS C; however, the major intersections of Diamond/Trinity and Diamond/Canyon may operate at a LOS of C to D, indicating that acceptable or tolerable delays may be experienced.

LAC Transportation Division operates a Traffic Monitoring System that allows staff to visually monitor the nine main signalized intersections in Los Alamos and make adjustments to traffic signal timing from the office when necessary to mitigate delays



experienced by motorists. This system alleviates time spent sending workers into the field to make adjustments and enables staff to respond quickly to make adjustments in the event an emergency, a special event, or other predictable or unpredictable situation causes delays at the signalized intersections.

It should be noted that motorists on Diamond Drive have experienced significant delays throughout the previous three construction seasons due to the roadway being completely reconstructed in five phases (see table for details). These delays are not typical. However, the Transportation Division has been able to assist in adjusting the signals affected to minimize delays experienced by motorists due to the construction.

Although traffic congestion is not consistently a major problem, LAC strives to improve transportation and mobility, as indicated by the Council's short and long-term strategic goals.

The table below provides descriptions and the current status of LAC projects aimed at improving transportation and mobility.



County Projects Aimed At Improving Transportation and Mobility

Project Name	Project Purpose	Status as of 12/2009
Development of Downtown Street Standards	To review existing downtown street standards contained in the County's Development Code and develop new "Downtown Street Standards" that further the idea of "multi-modal" corridors and increase the safety and comfort factor associated with using alternative transportation options, such as walking, bicycling, or using public transit. The existing code contains recommended downtown street cross-sections based on the Downtown Master Plan adopted by Council in 2002. Unfortunately these code standards don't take into account proper lane widths, are difficult to implement because of limited public rights-of-way, or are obsolete. With several new developments planned for the downtown and the NMDOT plan to rebuild a portion of Trinity Drive and NM502, a fresh look at the condition of downtown streets is in order. Having safe, attractive, and convenient downtown streets is a necessary step to achieve the County's broader goal of downtown revitalization and an important strategy of the Downtown Master Plan.	On December 8, 2009, County staff presented the DRAFT Downtown Street Standards to County Council. Council directed staff to return with a revised Downtown Street Standards Vision, Goals and Objectives addressing the Council's input and providing the suggested implementation mechanisms.
Diamond Drive Reconstruction Project	The scope of this project includes pavement rehabilitation / reconstruction of Diamond Drive from and including the San Ildefonso roundabout up to the Los Alamos Canyon (Omega) Bridge, to be completed in four phases.	Phase 1: Complete Phase 2: Complete Phase 3: Nearing completion Phase 4: Scheduled to be completed during two construction seasons (2010-2011)
White Rock NM4 Alignment, Trails, & Gateway Project	As part of the adopted White Rock Center Master Plan / Economic Development Strategy, the scope of this project is to study and evaluate conceptual modifications to NM4 from Pajarito Road to Rover Boulevard, new or improved multi-use path / trail connections along the Cañada del Buey arroyo, and engineering parameters for the addition of two gateways along NM4.	The consultant is currently developing conceptual alternatives for consideration and further discussion with the public. A final presentation to Council is anticipated in March 2010, at which time Council will be asked for direction regarding the final alternatives for each area: roadway, gateway, and trails/pathways.
NM502 Corridor Study	To develop and produce a Transportation Corridor Study and Plan (TCSP), for the 4.2 mile stretch of New Mexico 502 (NM502) also known as East Road or Trinity Drive, from the Los Alamos County line to Diamond Drive. A secondary component of this plan will be to take into consideration how the recommended NM502 changes will impact the surrounding roadways including Central Avenue, Diamond Drive, East Jemez Road, State Road 4 (SR4), and NM502 east of the county line. The current corridor does not adequately meet the needs of the through traffic, the diversity of the mixed-use downtown environment, and the residential neighborhoods located within the corridor.	Project has not been awarded yet. Staff is awaiting direction regarding the environmental study needs.



B. Services Provided

Organizational Structure and Divisional Goals

The LAFD is comprised of five divisions: Administration, which includes Safety; Operations; Training; Emergency Medical Services; and Fire and Life Safety Management. Each division has identified their goals, outlined their functions, defined their objectives and is measured as part of the strategic plan process. It is important to emphasize that the divisions work closely together to meet the needs of the LAC, the DOE/NNSA, and LANL which is operated by the Los Alamos National Security, LLC (LANS), a partnership comprising of Bechtel, The University of California, BWX Technologies and Washington Group International.

Administration Division

For the benefit of the LAFD employees, we will provide administrative guidance and support for the successful performance of programmatic functions.

The Fire Department Administration Division consists of the Fire Chief, a Deputy Chief, an Assistant Chief who oversees the Training and EMS Divisions, an Assistant Chief who acts as the County Fire Marshal and oversees the Fire and Life Safety Division, a Battalion Chief/Safety Officer, a Battalion Chief of EMS, a Battalion Chief of Training, and an Administrative Services Manager. This Division provides overall management of the Department, coordinates planning, and ensures that administrative services, fire prevention, suppression, emergency medical services, and safety services are delivered in a timely and efficient manner, and that a high level of readiness is maintained.

Safety

The Safety Division provides policy for environmental, safety and health issues for the prevention of accidents, injuries, illnesses, and fatalities. Its goal is to protect the health and safety of LAFD department members through effective management, education, training, and programs. The Safety Division is managed by a Battalion Chief.

Administrative Services

Under the direction of the Administrative Services Manager, the Administrative Services Division is comprised of an Operations Analyst, a Management Analyst, and four Senior Office Specialists. This team provides administrative and clerical support (i.e., procurement, accounts payable, human resource management, property management, travel, etc.) to all other Divisions of the department. This Division develops annual budgets for both the County and the DOE/NNSA, supports the CA between the County and the DOE/NNSA, and is responsible for managing the facilities, personal property, and equipment assigned to the Department for use by the County or the DOE/NNSA.

Operations Division

To provide the citizens and visitors of Los Alamos County, the Department of Energy, and the LANL with safe and efficient emergency and fire protection services in order to preserve life, property, and the environment.

Under the direction of the Deputy Fire Chief, three Battalion Chiefs, one for each of three shifts, the Operations Division provides and maintains, through a force of trained and qualified personnel, a state of readiness to cope with real and potential emergency incidents affecting life, environment, and property.

Training Division

To provide oversight and management for the development, delivery, evaluation, and improvement of all education, and certification, to ensure the safety, preparedness, effectiveness and career development of our personnel.

The Training Division coordinates all federal, state, and locally mandated training and certification programs to LAFD personnel and other associated agency personnel. This Division also provides oversight and management for the development, delivery, evaluation, and improvement of all education, certification, and career development programs for uniformed fire personnel in the department.

Under the direction of the Assistant Chief of Training/EMS and a Battalion Chief, the Training Division operates with a dedicated staff to provide a comprehensive, nuclear grade training program for the department.

Emergency Medical Services Division

To provide the highest level of emergency medical care achievable to anyone requesting this service. The EMS Division shall make every effort to address the concerns of its customers, both internally and externally, in order to achieve the highest level of safety for providers and the best possible outcome in patient survival and quality of life.

The EMS Division provides for the delivery of emergency medical services to our patients in the Los Alamos area. This includes quality assurance, daily medical readiness and response, training/certification and medical licensure currency, maintenance and disposition of all medical supplies, and inclusion of all new medical skills needed.

Under the direction of the Assistant Chief of Training/EMS and a Battalion Chief, the EMS Division operates with a skilled staff that provides outstanding emergency and training to the department and the community.

Fire and Life Safety Management Division

The FLSM Division strives to prevent injury, loss of life or property through the creation, implementation and management of fire protection, prevention and public education programs.

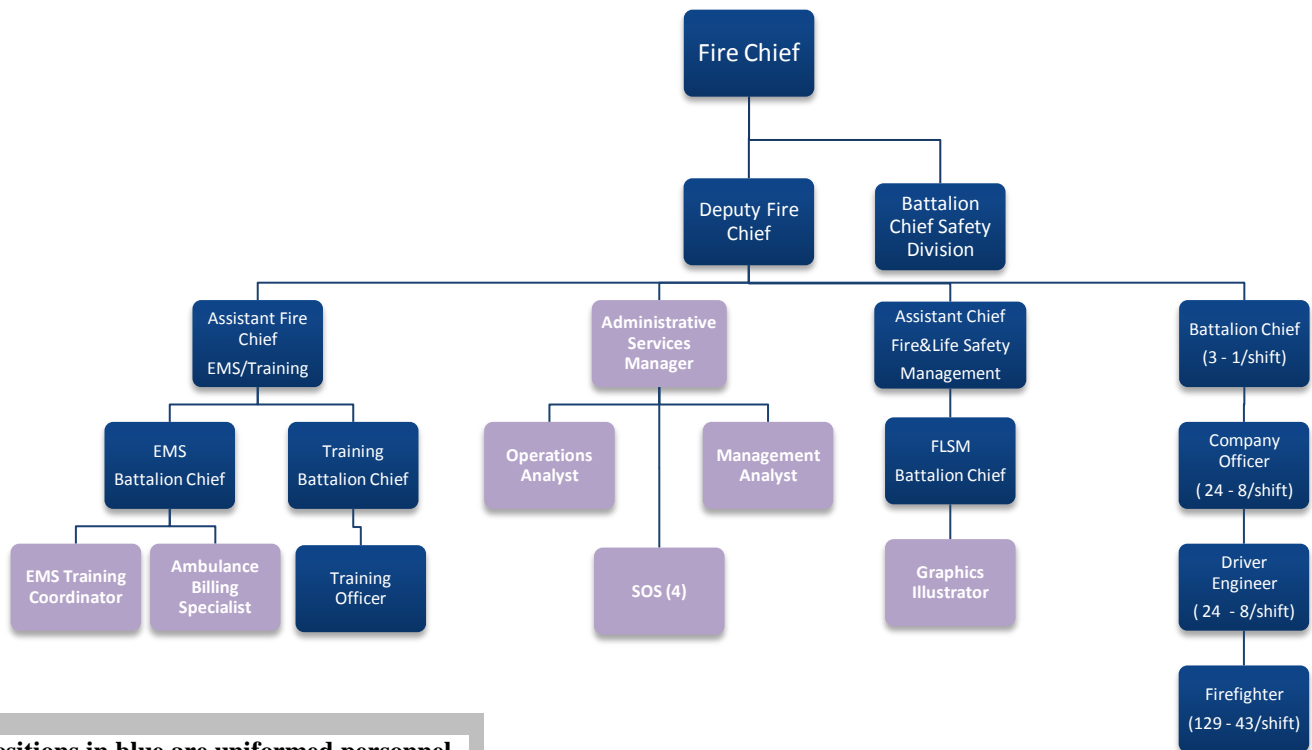
The Fire and Life Safety Management Division provides program oversight for the National Fire Incident Reporting System (NFIRS), EMS Incident Reporting, Fire Investigation,

Hydrant Testing, Pre Incident Planning, Life Safety Code Inspections, Public Fire Education, Pre-Construction Review, and Insurance Services Office (ISO) audits.

Under the direction of the County Fire Marshal and a Battalion Chief, the Fire and Life Safety Management Division operates with a skilled and dedicated staff that is highly motivated, innovative, and that strive to implement state-of-the-art technology.



Los Alamos Fire Department Organizational Structure



Positions in blue are uniformed personnel.
Positions in purple are civilian personnel.



Available Facilities, Personnel, Equipment and Apparatus

LAFD Fire Stations

There are five active fire stations within LAC, and an Administrative headquarters located in a separate facility. An additional fire station (Station 2) is used for training, including training offices and housing of training apparatus and equipment. The fire stations include locations in the Town of Los Alamos, White Rock, and on the LANL site. These stations are situated to protect both federal and private lands totaling approximately 109.5 square miles. Most of the stations were constructed in the 1950-1960's with one completed in 1991 and one in 2008.

Fire Administration: 195 East Road, Los Alamos

The Administration offices, located in the TRK Management Building, house the senior command and administrative staff. This Division provides overall management of the Department. Staff members provide administrative support to other Divisions, assist with the development of annual budgets, and support the CA between the County and the DOE/NNSA. This Division manages the facilities, personal property and equipment assigned to the Department and is responsible for the management of personnel and related functions.



Fire Administration

Fire Station 1: West Jemez Road, Los Alamos

Built in 1952, this station houses some of the Department's most sophisticated response equipment. Station 1 has four bays, two of which are drive-through bays and one additional oversized drive through bay for the aerial truck. This station has sleeping, living, and work areas overhead and additional work and storage areas in the lower level east wing. Station 1 is owned by the DOE and located on DOE property. The minimum shift crew consists of 12 personnel. This station's first response is to most of the major sites at LANL and portions of the County. They also respond with special equipment from this station to all other districts in the county. This station has seven apparatus bays and is equipped with the following apparatus: 118' Ladder Truck, Battalion Chief Command vehicle, CAFS Engine, Rescue Unit, Medic Unit, Compressed Air Foam Tender, Compressed Air Foam Mini Tender, and a Technical Rescue Vehicle along with other reserve units.



Station 1



Fire Station 2: 132 DP Road, Los Alamos

Fire Station 2, now owned by the County and built in 1951, is home to the LAFD Training Division. It is located on DP Road near the entrance from Trinity Drive, with access directly to DP Road. Converted from a response station in 1989, it is now used exclusively for ongoing training for our current staff as well as for new recruit academies. On the 1.25 acre property sits a 4-story concrete training tower and a 2-story station with 3 apparatus bays, living quarters, offices, and a training room. Also on the drill yard are a confined space rescue prop, ventilation props, a search and rescue facility, and a pump test pit. LAFD is in the process of constructing a Firefighter Practical Learning Center which will allow us to conduct live fire burns and other practical training evolutions at our facility. The LAFD strives to achieve excellence through a well qualified, confident and high performing work force.



Station 2/Training

Fire Station 3: 129 NM State Road 4, White Rock

The newest of the stations, Station 3 was built in its current location in White Rock in 2008. This state of the art station has received several national awards for its design and function ability. This station is equipped with 5 large drive-through bays, 24 private sleeping quarters, 12,000 square feet of living quarters, offices, work out area, and a 65 seat classroom. This Station is staffed with 10 personnel and first due response units include: 2 CAFS engines, 2 Medic Units, Compressed Air Foam Tender, Mini-Tender. This station also houses reserve units and response trailers along with the LAFD Mobile Command Unit (MOC). This station is owned by the County.



Station 3

Fire Station 4: 4401 Diamond Drive, Los Alamos

This station was constructed in 1964 and is located in the County's northern community. Through LAC and New Mexico Public Regulatory Commission State Fire Marshal's Office funding, Fire Station 4 was upgraded in 2002, and a separate structure was constructed near the station to house additional apparatus operated by LAFD. Fire Station 4 contains five bays with sleeping and living areas on the north side and work and storage areas on south side. The Annex contains two additional bays and provides additional storage for reserve units. The basement of Station 4 is home to the storages cages for special programs such as Uniform/Clothing, EMS Supply, HazMat Supplies, Emergency Equipment supplies, etc. There are five personnel assigned to this station and units assigned to this Station include: CAFS Engine, Medic Unit, Compressed Air Foam Tender, and a Compressed Air Foam Mini-Tender.



Station 4 and Annex

Fire Station 5: New Mexico State Road 501, Los Alamos

Fire Station 5 was constructed in 1952 and is located on LANL property in Technical Area 16 near the intersection of State Highway 502 and State Road 4. The fire station has three bays (two drive-through) with direct access to LANL technical areas. This station has sleeping and living areas upstairs and work and storage areas in the lower level. Fire Station 5 is owned by the DOE and is located on DOE property. This station is staffed with 5 personnel and first due response units include: CAFS Engine, Medic Unit, Compressed Air Foam Tender, and Mini-Tender. This station main response is to LANL and handles the majority of experimental explosive detonations.



Station 5

Fire Station 6: 457 East Road, Los Alamos

Fire Station 6 was constructed in 1991 and is located on State Highway 502 at the east side of the Los Alamos town site and west of the airport. Fire Station 6 has four drive-through bays with sleeping, living, work and storage areas located on the south side. This station houses five personnel and first due response units include: CAFS Engine, Medic Unit, Mini-Tender, and Crash Fire Rescue Unit (CFR) for response to the airport. A Tender is also housed at this station during wildland season. In addition to first in response to the airport, this station is also located directly across from a nursing home and assisted living facility. Fire Station 6 is owned by the County.



Station 6

Available Equipment and Apparatus**Fire Administration**

- Chief - 1 Chevy Suburban
- Chief - 2 Chevy Suburban
- Chief - 3 Dodge Durango
- Chief - 4 Chevy Suburban
- Battalion 2 Chevy Suburban
- Battalion 3 Chevy Suburban
- Battalion 5 Chevy Suburban
- Prev-1 Chevy P/U
- Admin -1 Dodge Durango
- Mini Van Chevy Venture
- EMS-1 Dodge Durango

Station 1

Station 1 has 12 personnel on duty. Staffing consists of one Battalion Chief, one Support Officer (SO) Captain, two Company Officers (CO), two Driver Engineers (DE), and six Firefighters (FF). One or more of these positions will be at the Paramedic level.

- Engine 1 CAFS E-One 50' Boom
- Truck 1 E-One Bronto Sky Lift 118'
- Tender 1 E-One CAF
- Rescue 1 E-One Medium Size Rescue
- Medic 1 Wheeled Coach MAV
- Mini Tender 1 Ford 550 w/ Pneumax CAF
- TRT 1 E-One Medium Size Rescue
- Battalion 1 Chevy Suburban
- Battalion 10 Chevy Suburban
- Snow Plow 1 Chevy One Ton Dually
- Rescue 10 E-One Medium Size Rescue

Station 2

Staffing consists of one Battalion Chief of Training and one to three Training Officers. The staff is able to backfill Monday through Friday in the event of a significant event that taxes resources.

- Engine 20 CAFS E-One Class A Pumper
- Battalion 4 Chevy Suburban
- Training Van Chevy Passenger Van
- Training-2 Dodge Durango
- Mini Van Chevy Venture
- Utility Truck 1 Chevy PU

Station 3

Station 3 is staffed with ten personnel. Staffing consists of two Company Officers, two Driver Engineers, and six Firefighters. One or more of these positions will be at the Paramedic level.

- Engine 3 CAFS E - One Class A Pumper
- Medic 3 Wheeled Coach MAV
- Mini Tender 3 Ford 550 w/ Pneumax CAF
- Tender 3 E - One CAF
- Engine 30 E - One Class A Pumper
- Medic 30 E - One Street Warrior'
- Truck 10 E - One 75' Boom
- Mobile Command E - One MCU
- Engine 60 E - One Class A Pumper
- Tender 6 E - One CAF
- Utility Truck 3 Chevy P/U
- EMS Support Trailer
- One Utility Support Vehicle.

Station 4

Station 4 is staffed with five personnel. Staffing consists of one Company Officer, one Driver Engineer, and three Firefighters.

- Engine 4 CAFS E - One 50' Boom
- Engine 40 E - One Class A Pumper
- Medic 4 Wheeled Coach MAV
- Mini Tender-4 Ford 550 w/Pneumax CAF
- Utility Truck 4 Chevy P/U

Reserve Units in Annex:

- Engine 10 CAFS E - One Class A Pumper
- Tender 4 E - One CAF
- Tender 6 E - One CAF
- Public Education Trailer

Station 5

Station 5 is staffed with five personnel. Staffing consists of one Company Officer, one Driver Engineer, and three Firefighters. By January 1, 2011, one or more of these positions will be at the Paramedic level.

- Engine 5 CAFS E - One 50 Boom
- Medic 5 International 4700
- Tender 5 E - One CAF
- Mini Tender 5 Ford 550 w/ Pneumax
- Utility Truck 5 Ford F -450 Crew cab P/U

Station 6

Technical
Advisor
Program

Station 6 is staffed with five personnel. Staffing consists of one Company Officer, one Driver Engineer and three Firefighters.

- Engine 6 CAFS E – One 50' Boom
- Medic 6 Wheeled Coach MAV
- CFR-6 E – One Crash Fire Rescue
- Mini Tender-6 Ford 550 w/Pneumax

Fleet

Following the 2000 Cerro Grande Fire, the majority of LAFD apparatus was replaced and updated to current standards through a major Capital Funding project supported by Cerro Grande Fire federal recovery funds. Each apparatus is a result of post fire assessment recommendations and was placed in service during FY 2003, with some apparatus in receipt and acceptance in 2007. Apparatus that was purchased through the DOE or General Services Administration (GSA) is provided for use by LAFD and are maintained through LANL service programs and subcontracts in accordance with the CA.



Services Provided

Fire Suppression

The LAFD is an Insurance Services Office (ISO) Class 1 Fire Department and currently operates a response fleet consisting of 13 structural suppression vehicles, 11 wildland/urban interface suppression vehicles, 3 rescue vehicles, 6 ambulances, 1 crash/fire/rescue vehicle and 1 mobile operations center vehicle to protect LANL and the community of Los Alamos.

Authorized shift staffing is currently 130 combat fire personnel trained to within the NFPA standards for fire suppression, wildland firefighting, urban interface firefighting, technical rescue and hazardous materials/Weapons of Mass Destruction (WMD) and radiological emergency response.

The combat fire personnel respond out of five active fire stations strategically placed throughout the County with one additional station used primarily for training with a training tower, confined space simulator and various training props. Construction will soon begin on a state of the art fire training simulation facility and a new ventilation prop.

Since the County is geographically separated from other fire departments, the nearest being Santa Fe City which may be able to respond with an engine company with a response time of one hour or greater, the LAFD must provide for an aggressive fire attack using on-duty resources with limited call back capabilities. LAFD meets the deployment objectives for fire suppression emergency incidents by responding in accordance with procedures outlined in Los Alamos Fire Chief Directive (FCD) Division 900, Article 3, Response and Alarm Assignments. Our basic dispatching philosophy is to send “too many” units rather than “too few”, balanced with the safety of the public and our personnel. The Battalion Chief or any responding officer will determine dispatching beyond a first alarm response. The FCD allows the department to respond the appropriate amount of apparatus, equipment, and personnel to each type of fire incident and strive to meet the standards of NFPA 1710.

LAFD adopted the National Interagency Incident Command Management System (NIMS) in 1992. The guidelines and command structure are outlined in LAFD FCD Division 400, Article 15, Incident Command. LAFD also has policies in place for accountability, rapid intervention procedures, lost or trapped firefighters and radio procedures.

LAFD personnel use incident command at all incidents including drills and exercises.

This incident command system is designed to expand from a simple incident command system to a more comprehensive command system. LAFD also utilizes NIMS Forms and/or LAFD Tactical Worksheets on complex incidents.

The LAFD Incident Commander is responsible for formulating the strategy, development and implementation of a single Incident Action Plan (IAP), and for the completion of certain tactical objectives. The tactical objectives, listed in order of priority, are as follows:

1. Remove endangered occupants and treat the injured.
2. Stabilize the incident and provide for life safety.
3. Protect the environment.
4. Conserve property.
5. Provide for the safety, accountability, and welfare of personnel. **This priority is ongoing throughout the incident.**

The Department has set a high priority on supplying all operational personnel with personal protective clothing (PPE) using current NFPA Standards of protection. All station wear, structural and wildland protective clothing, is specified, purchased and maintained within current OSHA and NFPA Standards.

All equipment on the Department's apparatus was designed and equipped within current OSHA and NFPA Standards. Each unit is equipped with Self-Contained Breathing Apparatus (SCBA's) with multi-purpose respirator canisters and extra bottles, forcible entry tools, salvage/overhaul equipment, positive pressure ventilation fans, medical kits, high angle rope rescue kits, a generator with a portable light system, radiological monitors, and gas monitors. The 2 rescue units are equipped with state of the art extrication devices, SCBA bottle re-fill station, technical rescue equipment and tools. Truck 1, Engine 3 and all medic units also carry vehicle extrication technical equipment and tools.

Medic units are all equipped using current NFPA and 18 New Mexico Administrative Code (NMAC) 4.2 Standards.

All combat personnel are assigned a handheld radio and all response units are equipped with cellular phones and laptop computers with reference programs installed.

Wildland

Sitting on the eastern flank of the Jemez Mountains, LAC has one of the largest wildland urban interfaces in New Mexico. The town site is located on the boundary of the Pajarito Plateau and the foothills of the Sierra de los Valles, which is the easternmost extension of the Jemez Mountain range. Neighborhoods are built on finger mesas that are separated by deep canyons carved into soft volcanic rock. This disjointed, linear arrangement of housing creates an unusually high proportion of homes located at the border or within the forest or woodland areas.

Historically, large wildfires in northern New Mexico occur in mid-to-late spring and are driven by prevailing spring winds out of the southwest. The most recent example, the Cerro Grande Fire, was a wind-driven fire that moved steadily to the northeast, and at times, advanced as much as two miles an hour in that direction. The wind factor is complicated by the concentration of dense forest areas to the south and west of Los Alamos. As a result, fires originating in the forests southwest of the town site and White Rock have the potential to be readily driven into the community.

Although Los Alamos and White Rock are laced with an extensive road and trail network, many locations within the county are inaccessible by vehicle or difficult to reach on foot. Due to steep terrain with limited escape routes, suppression of a wildfire ignition in many canyon areas can place firefighters at great risk.

The LAFD is tasked with performing fire prevention and to control activities in order to protect life and property from wildfire. The Department's goal is to minimize wildfire loss through the establishment of effective policies, planning, fire prevention, personnel, infrastructure, training, communications, operational systems, safety, and coordination. A fundamental concept of fire risk is associated with living a wildland/interface community. The LAFD attempts to reduce the risk within the District by taking measures to prevent the outbreak of fires, limit the extent and severity of those fires that do start, provide for the removal or rescue of endangered persons, control and extinguish fires that occur within the District, as well as, to perform other emergency response operations and delivery of emergency medical services.

All combat firefighters are cross trained for wildland firefighting. After the Cerro Grande Fire, the entire LAFD firefighting fleet was replaced with urban-interface capable apparatus. All firefighting units have compressed air foam (CAF's). Some engines, all tenders and mini-tenders are AWD, have pump and roll capabilities with front turrets operated from within the cabs. The units carry a compliment of wildland hand tools for indirect attack.

Under the New Mexico Wildland Fire Management Joint Powers Master Agreement, and through the Interagency Wildland Management Team and the Santa Fe Zone (New Mexico Communications Hub for Wildland Firefighting), the LAFD works with other fire agencies to provide initial attack and structural protection on contiguous area surrounding Los Alamos County. LAFD FCD Division 900, Article 6, establishes the communication plan for working with outside agencies all within NIMS.

Rescue/Technical Rescue

LAFD is well equipped to provide emergency rescue services and specialized equipment to incidents requiring technical rescue capability. LAFD currently has a Technical Rescue Team that consists of 43 personnel with 14 assigned to each shift. In addition to standardized departmental training, they receive an additional 80 hours of training in such disciplines as High Angle Rescue, Confined Space, Trench Rescue, Extrication, and Building Collapse. The Department currently has three medium duty rescue units and one trailer that carry technical rescue and extrication equipment and are ready to respond at all times.

All Operational personnel receive training in high/low angle rescue, confined space training, vehicle extrication, trench rescue and structural collapse.

Due to the uniqueness of the surrounding terrain, LAFD responds to several high and low angle rescues each year to aid injured hikers and climbers. LAFD also provides numerous confined space stand by teams for personnel making confined space entries at LANL. LAFD has adequate personnel and equipment to effectively perform both high angle and confined space rescue.

LAFD has supplies and materials available to begin initial shoring, incident command, and rescue operations at either a structural collapse or trench rescue. Due to the unique topography and make up of the soil (tuffa) in our jurisdiction, the possibility of either due to a natural occurring emergency is remote. LAFD still has a cache of shoring equipment and materials available and trains for the events.

LAFD has more than adequate equipment to respond to extrication rescues including vehicle, industrial, or heavy equipment.

Emergency Medical Services

All Operational personnel have varying emergency medical responsibilities, either as Firefighter/EMT-B (Emergency Medical Technician-Basic), Firefighter/ EMT I (Emergency Medical Technician – Intermediate) or Firefighter/EMT-P (Emergency Medical Technician-Paramedic). All ambulances are certified and of a type IV chassis and are transport capable of two supine patients. Equipment and supplies stocked on the ambulance range from Basic Life Support (BLS) to the Advanced Life Support (ALS) level and are utilized to the full potential of the licensure level of the attending EMTs. This allows the flexibility of a crew with different licensure levels to work within their scope all the while ensuring that the patient is receiving the highest level of care necessary.

Current Operational System

The LAFD's resource deployment strategy is predicated on training as many personnel as possible in all phases of fire protection and emergency medical care. This philosophy provides for a resource deployment that has maximum flexibility and is cost effective. All uniformed personnel, up to and including captains are trained as dual role Suppression/EMS personnel. This means that all firefighters have varying emergency medical responsibilities, either as Firefighter/EMT-B (Emergency Medical Technician-Basic), Firefighter/ EMT I (Emergency Medical Technician – Intermediate) or Firefighter/EMT-P (Emergency Medical Technician-Paramedic). Los Alamos currently has 66 EMT-Basics, 41 EMT-Intermediates and 23 Paramedics.



LAFD Personnel load a patient into the ambulance for transport to a hospital.

EMS Training

Emergency Medical Technician-Basic, Intermediate and Paramedic initial training and scope of practice is defined in Title 7 Chapter 27 Part 2 of the New Mexico Administrative Code (NMAC). The New Mexico Department of Health, EMS Bureau sets minimum training hours derived from the National Registry of EMT's and the National Association of Emergency Medical Technician standards.



Emergency Medical Technician-Basic (EMT-B)

The EMT-B initial training has a minimum 110 hour requirement and a mandated set of standards as well as basic life support topics to be covered within that time. Courses are available at many local community colleges, fire departments and through the New Mexico EMS Academy.

To obtain initial licensing, the EMT-B candidate must submit a course completion certificate from an accredited training facility and a copy of a current CPR card to the New Mexico Emergency Medical Services (NMEMS) Bureau. The re-licensing process consists of submitting proof of 24 hours of continuous education activity, of which 4 contact hours must be pediatric content over the previous 2 year period, an EMS refresher that is 24 hours in length and a current CPR card.

Emergency Medical Technician-Intermediate (EMT-I)

The EMT-I initial training consists of 200-400 hours of training including clinical time. A current EMT-B license is a course prerequisite. Courses are available at many local community colleges, fire departments and through the New Mexico EMS Academy.

To obtain initial licensing, the EMT-I candidate must submit a course completion certificate, a current EMT-B license from an accredited training facility and a copy of a current CPR card to the NMEMS Bureau. The re-licensing process consists of submitting proof of 30 hours of continuous education activity, of which 5 contact hours must be pediatric content over the previous 2 year period, an EMS refresher that is 24 hours in length and a current CPR card.

Emergency Medical Technician-Paramedic (EMT-P)

The EMT-P initial training consists of 1000 or more hours of training to include clinical rotations and internships with licensed Paramedics. LAFD requires all potential paramedic students to have a current EMT-I license, a current CPR card and recommendations from their supervisor, Battalion Chief, Medical Director and the Fire Chief. Courses are available at accredited colleges and universities.

To obtain initial licensing the EMT-P candidate must submit a course completion certificate from an accredited training facility and copies of current CPR and ACLS cards to the NMEMS Bureau. The re-licensing process consists of submitting proof of 24 hours of continuous education activity, of which 6 contact hours must be pediatric content over the previous 2 year period, an EMT-P refresher that is 48 hours in length, a current CPR card and a current ACLS card.

Medical Direction

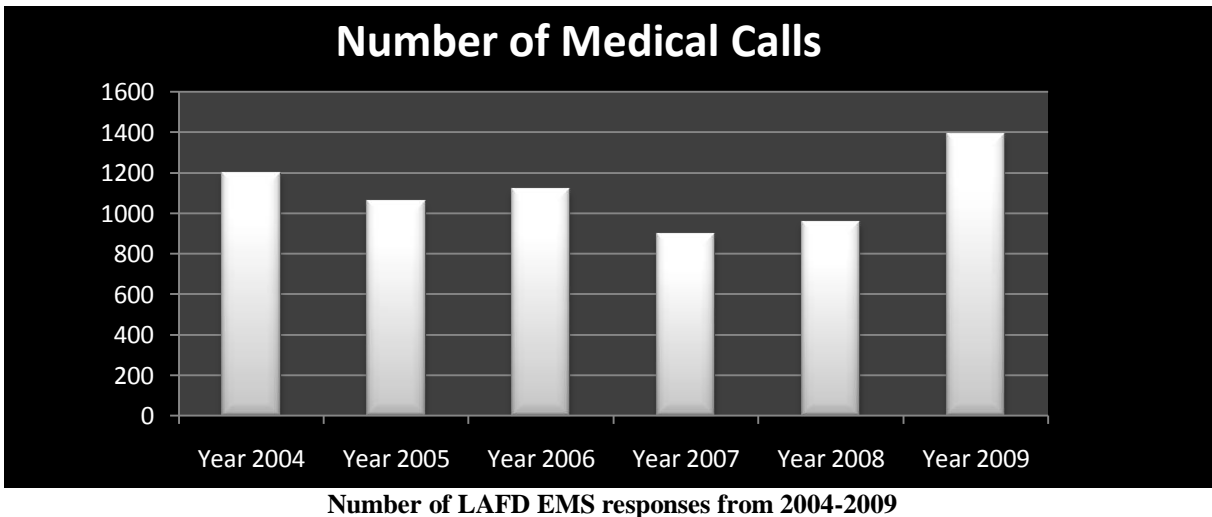
Los Alamos County contracts for a Medical Director under whose license all levels of LAFD-EMS responders operate. Medical Direction is required as by 7 NMAC 27.3 and 18 NMAC 3.14.11. The New Mexico State Scope of Practice is outlined in 7NMAC 27.2 and the Medical Director sets the treatment guidelines for all levels per the scope of practice and in conjunction with the EMS Division. The EMS Division works on policy and procedure revision and creation and submits them to the Medical Director for approval. Once



approved and supported by the EMS Division, the policies are placed in service for the EMS professionals to treat patients.

Continuing Education

Continuing Education opportunities are offered throughout the year in various formats including but not limited to classroom training, skills evaluations, drills, scenarios, Target Safety online training, grand rounds CQI reviews, conferences and Medical Director training. Continuing education hours are available to all licensure levels.



Initial Response

The initial response to a medical emergency will be the closest engine company or ambulance with EMT/Firefighters. Engine companies are sent with the ambulance as determined by the ProQA Priority Dispatch System. The predetermined dispatch allows for the highest trained personnel to respond for the appropriate level of care required. It is important to note that the EMT-Intermediate is recognized as ALS as they administer intravenous therapy, injection of drugs and solutions. There are a minimum of three paramedics on duty located strategically within the community. This number is set by the BNA and in conjunction with NFPA 1710. They respond when requested through the Consolidated Dispatch Center (CDC) to supplement resources on scene. Through the CA, LAFD intends to increase the number of paramedics responding to ALS calls on LANL property.



Transportation to Hospitals

The LAFD transports patients to Los Alamos Medical Center (LAMC) as it is the closest hospital and has an Emergency Department. However, LAMC does not have trauma designation. Hospital transport in ALS cases includes transport to certified trauma center hospitals using a minimum of two ALS providers, as recommended in the Centers for Disease Control (CDC) guidelines. Additional support may be from BLS providers under the guidance of ALS providers. For the Los Alamos area, the nearest trauma centers are St. Vincent's Hospital in Santa Fe and University of New Mexico Hospital in Albuquerque. Transport of critical patients by ground to a qualified trauma center is expected to exceed 120 minutes. Alternatives include air transport from Albuquerque based hospitals or Santa Fe airport; however successful transport is subject to weather conditions. LAFD routinely does inter-facility transports. As LAMC requires patients to be transported to other facilities for various reasons, Rocky Mountain EMS is requested first in and out of County transports that can be scheduled. In the event they are unavailable, Los Alamos will take the transport. It is obvious that when a Medic unit transports to a facility outside of the County that unit is no longer capable for response to either a fire or medical emergency. In addition to the long response times, the ambulance must put the unit back into service by cleaning and disinfecting, replenishing its supplies, and completing a patient care report that in most cases takes 20 minutes to complete.



Air ambulance assists with inter-facility transports

2006-2009 Transportation Locations

Destination	Year 2006	Year 2007	Year 2008	Year 2009
Los Alamos Medical Center	730	724	749	583
Sombrillo Intensive Care Facility From LAMC	31	39	33	19
St. Vincent's Regional Medical From LAMC	57	40	72	46
UNM- Hospital From LAMC	12	16	18	9
Presbyterian From LAMC	0	11	24	10
St. Joseph's Heart Hospital From LAMC	15	8	12	5
Other facility transports to include Airport, Residence, etc.	64	54	37	25



Multi-Casualty Incidents (MCI)

In the event of a Multi-Casualty Incident, the LAFD is notified through the CDC of such an event. An MCI dispatch will include the following: two engines, three ambulances, one rescue, one technical rescue truck, one Battalion Chief and one Chief Officer. On any MCI, LAFD follows FCD Division 500, Article 8, Special Scenes and Patient Situations and uses the NIMS Incident Command System (ICS) as required by the State of New Mexico. Implementation of the procedures detailed here are directed toward the goal of producing the largest number of survivors while providing for responder and community safety, accountability, welfare and environmental concerns. The LAFD breaks an MCI down accordingly:

1. System Level MCI: An incident that taxes the immediate area EMS system (> 7 patients of which 3 or more are Red Tag – critical).
2. Low Level MCI: An incident with 12 or less patients of which 5 or less are Red Tag (critical) patients.
3. High Level MCI: An incident with more than 12 patients or more than 5 Red Tag (critical) patients.
4. START: S.T.A.R.T. stands for Simple Triage and Rapid Transport. MCI's shall employ this system of patient management per protocol, utilizing the R.P.M. method of determining patient status and categorization.

The first arriving unit will setup command and commit to the following actions:

- a. Confirm that an MCI exists
 - b. Rapidly assess the incident
 - c. Estimate the number of patients
 - d. Determine the need for additional EMS resources
 - e. Determine the need for additional outside agencies, resources or specialized equipment (e.g., law enforcement, haz-mat, heavy equipment)
 - f. Determine and relay the safest area for incoming units to gain ingress/egress, and staging of additional resources.
5. Notification of Hospitals:

The appropriate notification to area hospitals concerning the existence of a MCI should occur as soon as possible by the Incident Commander or designated officer. Specific information (e.g., unit, patient numbers, criticality, etc.) should be conveyed directly to these hospitals as the incident progresses.

- a. Contact nearest Trauma Center (St. Vincent Hospital or University Hospital)
- b. Involve additional facilities as appropriate for the size and criticality of the event
- c. Receiving facilities should receive an initial call with all appropriate information followed by periodic updates
- d. Transporting units should not be making individual radio reports in a large scale MCI unless there is a significant change in patient condition



Only three individuals were involved in incident shown above. There were no injuries.



Role of EMS Medical Director

The EMS Medical Director shall be notified of all High Level MCIs at the earliest opportunity. If the EMS Medical Director arrives on scene, he/she shall be briefed upon arrival by Incident Command (I/C), and then sent to the EMS Division/Branch for assignment and further briefing.

Role of Physician

- a. Physicians who are known in the community, or are able to produce a valid identification, shall be directed to I/C.
- b. Medical Control when the Medical Director is not present will take place via the written protocols.
- c. Personnel are **NOT** required to **CONTACT MEDICAL CONTROL**, even to perform life-threatening procedures if they are deemed appropriate by field personnel in these situations.

Hazardous Materials

The LAFD responds to all hazardous materials incidents at the hazardous materials operations level to stabilize the incident by performing rescue and working in a defensive mode to mitigate the emergency. Through a Memorandum of Understanding with NNSA, the Department may request the LANL HazMat team to respond in an offensive mode at the technician level to stabilize the incident.

Currently all of the Department's response personnel are trained to the California Specialized Training Institute (CSTI) Hazardous Materials/WMD first responder operations level with line officers trained to the CSTI Hazardous Materials Incident Commander level. In addition to the operations level training, ten personnel are trained to the Hazardous Materials Technician level and three are trained to the Hazardous Materials Specialist level. During hazardous materials incidents, LAFD personnel trained to the technician/specialist level are requested to respond as technical reference specialists.

The 3-5 year plan is to implement our own hazardous materials response team with twelve hazardous materials technicians per shift for initial response to any hazardous materials incident in the County including LANL.

Training and Certifications

All Operations personnel are trained to the national, state, or department qualifications and/or certifications within NFPA guidelines, commensurate with their respective position within the organization.



National Fire Protection Association (NFPA) Standards

All uniformed personnel meet the intent of the NFPA standards commensurate with their respective position within the organization including: Firefighter, Driver Engineer and Fire Officer.



National Incident Management System (NIMS)

In addition to the previously stated minimum level training requirements, personnel meet the NIMS certification requirements for their respective positions.

California Specialized Training Institute (CSTI) Hazardous Materials.

All uniformed members of the department are trained to the CSTI Haz-Mat First Responder Operations and Operations Decontamination levels in addition to the state required IFSAC certification at the same level. Several members of the organization have obtained higher level certification to include: Technician, Specialist, Incident Commander and Instructor.

Wildland Firefighting

Additionally, all personnel are trained at a minimum to the National Wildfire Coordinating Group (NWCG) Fire Fighter Type I and in accordance with NFPA standards. Some members have obtained higher level NWCG certification.

Technical Rescue

In addition to the previously stated minimum level training requirements, all personnel are trained to various NFPA standards as they relate to High/Low Angle, Confined Space, Building Collapse and Trench Rescue incidents, Level I along with vehicle extrication.

LAFD has a 43 member Technical Rescue Team (TRT) but approximately 50% of operational personnel have received Level II training in the above disciplines.



International Fire Service Accreditation Congress (IFSAC) and Pro Board certified

Since 2001 all new personnel are required to obtain IFSAC Firefighter II certification before graduating the Recruit Academy. The organization currently uses the above organizations for certification at the Instructor I/II, Fire Officer I/II levels along with Incident Safety Officer, which several of the members have already obtained.



Communications

LAFD currently operates its radio communications utilizing LANL radio tower system. The LANL radio system is a 15 channel, 400MHz trunked system. LAFD utilizes MA/Comm P7100 5 watt handheld and a M7100 45 Watt mobile radios. All LAFD Operational personnel are issued their own MA/Comm radios. There are approximately 1200 user talk groups that use this system. The LANL system is LAFDs primary radio link.

Response dispatch for LAFD is provided by the LAC Consolidated Dispatch Center (CDC). Dispatchers are under the management of the Los Alamos Police Department (LAPD). The CDC is currently located on LANL property at the Emergency Operation Center (EOC) but will soon be relocated to the new County Police Department facility. There is, at a minimum, two dispatchers on duty at all times to handle LAFD calls.

In the event that LAFD units have to respond outside of the county, units can use the Kenwood VHF radio that is on LAFD apparatus. The Kenwood radio is a 760H and 7160H 45 watt radio. This radio has most area agency frequencies pre-programmed. LAFD also keeps a cache of Bendix King (BK) handhelds for use. BK radios are utilized for mutual aide and wild land fire responses.

LAFD also utilizes other forms for communications such as cell phones, satellite phones, pagers, as well as, computers in areas where service is available. All units have at least one, if not two, forms of radio communications on board.

Fire and Life Safety Management

Public Education

The Department has developed public education programs directed towards the agency's mission, goals and objectives. The Fire and Life Safety Management (FLSM) Division has expanded public education programs in the schools and those directed toward the general public. This has been accomplished by establishing a Fire Prevention Team dedicated to developing and presenting fire and life safety information to various groups ranging from pre-school children to senior citizen groups within the County and throughout Northern New Mexico.



Fire Investigation Program

The LAFD Investigation Program is designed to produce a systematic process by which effective fire investigation of origin and cause can be accomplished. The Department has sufficient resources and procedures in place to achieve successful results.

The Department has trained a core group that consists of at least two firefighters per shift, the Deputy Fire Marshal, and the Fire Marshal. This allows adequate redundancy to ensure that trained personnel are available to adequately investigate fires. All fires are investigated by the core group to identify the origin and cause of fires, explosions, and other emergencies. In addition, the LAFD and LAPD have initiated a process to work together in all fire investigations that are undetermined or suspicious in nature to ensure appropriate measures are taken to secure evidence; chain of custody issues are addressed, and the fire scene is adequately documented. All fire investigators have received advanced arson training through the International Association of Arson Investigators (New Mexico Chapter) and/or the NM State Fire Academy. Additionally, two personnel have received training from the National Fire Academy.

The Department's Fire Investigation Program, in cooperation with the LAPD, New Mexico State Police, New Mexico Police Crime Laboratory, State Fire Marshal's Office, and the Bureau of Alcohol, Tobacco and Firearms provide an effective Fire Investigation Program. All fires that are undetermined as to origin, suspicious, large dollar loss and explosions or fires resulting in a death are investigated thoroughly and promptly by the coordinating agencies.

Life Safety Code Inspection

Within the budget and funding limitations of the CA, the emergency services at LANL are conducted in accordance with NNSA designated National Fire Protection Association (NFPA) standards or authorized equivalencies, with applicable provisions for emergency services within DOE Order 420.1B *Facility Safety*, and DOE G 420.1-3, *Implementation Guide for DOE Fire Protection Emergency Services Programs*, with a Department of Homeland Security compliant ICS and with Pre-Incident Plans (PIP) and Operational Response Procedures appropriate for the hazardous operations conducted at LANL. The ICS, PIPs and Operational Response Procedures are reviewed annually by the NNSA Program Manager.

Los Alamos Fire Department Operations and Response

Emergency Response Staffing

All BLS engine companies are staffed with three personnel: company officer, driver engineer, and a firefighter.

All transport ambulances are staffed with by two firefighters, and/or paramedics.

All rescue/tenders/mini tender companies are staffed with two firefighters, either: driver engineer, firefighter, and/or a paramedic.

All truck companies are staffed with three personnel: company officer, driver engineer, and a firefighter.

Response Area

The LAFD is responsible for protecting the two communities of the County, Los Alamos town site and White Rock (about 16 square miles), the LANL (about 43 square miles) and initial response to the adjacent federal lands (about 59 square miles). The federal lands within LAC are controlled by the U.S. Forest Service, Bandelier National Monument, General Services Administration, Bureau of Land Management, and the tribal lands of Santa Clara and San Ildefonso Pueblos.

Response Area Characteristics

LANL is operated by the DOE/NNSA with LANS as the prime contractor. LANL contains both nuclear and non-nuclear facilities. Hazardous materials of all kinds are also concentrated at LANL. These include chemicals of many types, flammable liquids, cryogenics, explosives, biological agents, special nuclear materials, and radioactive materials.

Although fire suppression service demands at LANL have been minimal, the potential risk is significant. Many of the housing units in LAC are old in that they were built prior to 1960 and a large number are multiple dwelling units. In addition, The County has only two routes for ingress and egress, State Roads 4 and 502.

Population

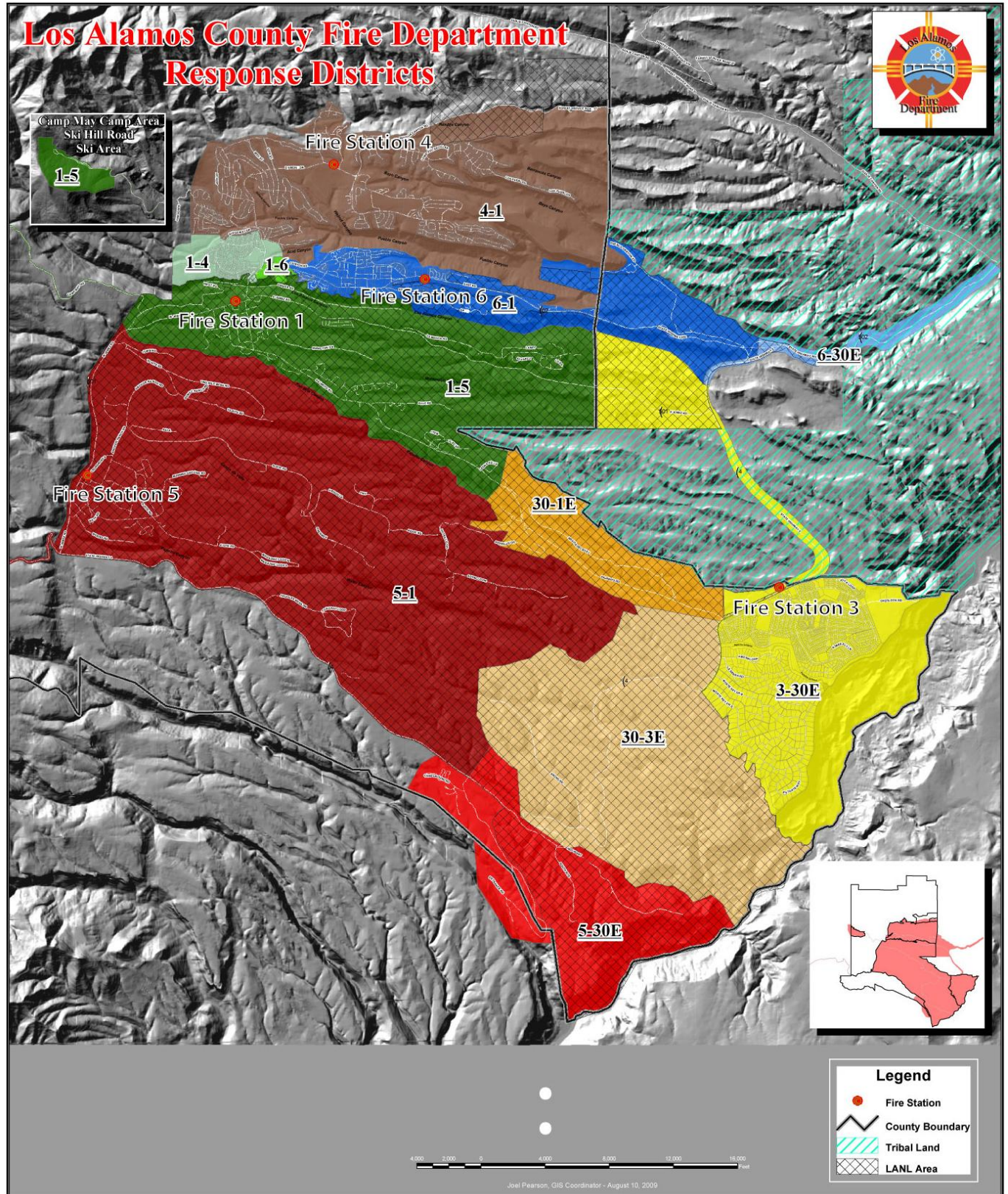
The LAC residential population is approximately 18,800 housed in approximately 8,300 units with 24 percent of those units in multi-unit structures. The LANL work population is approximately 12,000 located in approximately 2,100 buildings.

Response and Alarm Assignments Matrix

District	1-4	1-5	1-6	3-30E	30-1E	30-3E	4-1	5-1	5-30	6-1	6-30E
	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units	Units
	E1	E1	E1	E3	TRK1	TRK1	E4	E5	TRK1	E5	TRK1
	TRK1	TRK1	TRK1	E30	E30	E30	TRK1	TRK1	TRK1	TRK1	TRK1
First Alarm	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1
	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
	M1	M1	M1	M3	M30	M30	M4	M4	M5	M6	M6
First Alarm	E4	E5	E6	E6	E5	E5	E1	E1	E1	E1	E1
	M4	M5	M6	M30	M1	M3	M1	M1	M1	M1	M30
Move Up to Station 1	E30	E30	E30				E30	E30	E30	E30	
	M30	M30	M30				M30	M30	M30	M30	
		E6						E6			
Second Alarm	E6	E6	E4	E1	TRK1	TRK1	E6	E5	TRK1	E4	TRK1
	E30	E30	E30	E5	M1	M1	E30	E30	E30	E30	E30
Move Up to Station 1	E5	E4	E5	M30	M5	M5	E5	E4	M4	E5	M5
	M5	M6	M5				M5	M6		M5	M1
	M6	M4	M4					M4		M4	
Third Alarm	E5	E4	E5	E4	TRK1	TRK1	E5	E5	TRK1	E5	TRK1
Move Up to Station 1	E3	E3	E3	M30	M1	M1	E3	E3	M1	E3	E5
							M6		M4		M5
											M1

E=Engines; R= Rescue Units; M=Medic Units; T=Tenders; TRK=Truck; B=Battalion Unit;





Notifications and Actions

Working First Alarm Notifications and Actions

- ✓ Page all Chief Officers
- ✓ All-call page for off duty fire personnel
- ✓ A Chief Officer is assigned to Station 1 to assist with resource needs
- ✓ Consider the establishment of a Department Operations Center (DOC) "Fire DOC"
- ✓ Staff reserve apparatus as soon as possible
- ✓ Call for TRT, CAF, or other specialized equipment as needed
- ✓ Consider request for assistance

Second Alarm Notifications and Actions

- ✓ Move up available LAFD Resources
- ✓ Actively call back personnel. The CAN system should be used.
- ✓ Establish a Department Operations Center (DOC) "Fire DOC"
- ✓ Assign Chief Officers to support positions needed
- ✓ Request for assistance

Special Calls Notifications and Actions

- ✓ Page all Chief Officers
- ✓ Utilize Administrative support staff at the DOC
- ✓ ARFF Emergencies: B1, CFR6, E5, E1, CAFT1, R1, M1, M4 (If Station 6 is on relocation or not available, another company will need to pick up and respond with CFR6)
- ✓ BOMB THREAT: Appropriate engine, Medic, and other units as assigned
- ✓ TECHNICAL RESCUE: B1, In district Engine, Rescue, Medic, TRT

Units

Automatic response for a commercial or residential structural fire shall include the following: **NOTE:** See Response Schedule for district and unit information:

- ✓ 1 Battalion Chief
- ✓ 1 Engine (emergency traffic)
- ✓ 1 Engine (normal traffic, CO may upgrade to emergency traffic based on information.)
- ✓ 1 Ladder Truck
- ✓ 1 Rescue
- ✓ 1 Medic (emergency traffic)
- ✓ 1 Medic (normal traffic)

First Alarms

Response of apparatus within assigned districts: (See Response Schedule for additional information.)

- ✓ Add CAF Unit, TRT, or other specialized equipment to first alarm assignment as circumstances warrant.
- ✓ Notify Chief Officers (via all chiefs page by LA Fire) for all unusual emergencies or any time smoke or fire is showing.
- ✓ At least 1 Chief Officer should be assigned to Station #1 to assist with planning and logistical needs.
- ✓ Units not assigned to the first alarm shall relocate to Fire Station #1 in order to centralize available resources and assist with resource needs.
- ✓ The Incident Commander shall establish an Initial Rapid Intervention Crew (IRIC) team using personnel from first alarm companies, and follow up with the assignment of personnel to the Tactical Deployment Group (TDG) as soon as available resources allow (Refer to FCD 400.20.).

Second Alarms

- ✓ A second alarm will provide two additional engines and other equipment/apparatus as needed (*i.e. CAF Tanker for exposure protection or Class B capabilities*).
- ✓ Consider activation of call back systems - *Pagers and Community Alert Network (CAN)*.
- ✓ Establish a Fire Department Operations Center (DOC) or for radio purposes, "Fire DOC" at Fire Station #1 or the LANL EOC. Utilize Chief Officers and off duty personnel as needed to support the ongoing incident or to staff reserve units to respond to other incidents.
- ✓ All LAFD units not on emergency activity will initiate appropriate move up/relocations or return to their assigned fire stations.
- ✓ The Incident Commander and responding Officers may consider Level I and Level II staging areas as circumstances warrant.
- ✓ Consider request for assistance – *Air transport, Santa Fe City Fire, Santa Fe County Fire, Espanola Valley Emergency Medical Services (Espanola Ambulance)*.

Response/Move-Up (Relocations)

It is the responsibility of all Company Officers to automatically respond/move-up for coverage when an emergency or non-emergency incident has been reported, or an extended operation for medical/rescue call, or when requested by a Chief Officer.

Committed Resource Notification

It is the responsibility of the Battalion Chief to notify LANL Emergency Operations Center when more than 50% of the County's fire department resources are committed to response activities.

Special Request/Response

A Special Request/Response is any response other than structural, which may include:

1. Aircraft Emergency
2. Bomb Threat
3. High Angle Rescue
4. Hazardous Materials
5. Wild land Fire
6. Multi-Casualty Incidents

The on duty Operations Battalion Chief has the ability to authorize responses outside the fire service area, based on the following:

1. Responses within the Los Alamos County fire service area will **always** have priority.
2. Nature of emergency.
3. Availability of fire personnel and equipment.

Note: LA Fire will notify the appropriate authority having jurisdiction (*i.e. fire/rescue, medical, or law enforcement*). Responding Chief or Company Officer shall confirm with LA Fire that the appropriate jurisdiction has been notified and attain information regarding their ability to respond. If appropriate responders from the authority having jurisdiction are on scene, LAFD personnel and equipment will support the operation as circumstances warrant and return to service as soon as reasonably possible.

If no equipment is available, the on-duty Battalion Chief will instruct LA Fire to contact the appropriate jurisdictional authority.

C. Community Expectations and Performance Goals

A key element of LAFD's organizational philosophy is having a high level of commitment to customers, as well as recognizing the importance of customer satisfaction. Therefore, the Department asked representatives from their community to participate in a meeting, which would focus on their needs and expectations of that Department. Discussion centered not only on the present services provided but also on priorities for the future.



Customer Priorities

In order to dedicate time, energy and resources on services most desired by its customers, LAFD needs to understand what the customers consider to be their priorities. The External Stakeholders were asked to prioritize the services offered by the agency through a process of direct comparison.

Customer's Service Priorities of the LOS ALAMOS COUNTY FIRE DEPARTMENT

SERVICES	RANKING	SCORE
Advanced Life Support - EMS	1	142
Fire Suppression	2	132
Basic Rescue	3	112
Hazardous Materials Mitigation	4	95
Advanced Rescue	5	93
Disaster / Emergency Preparedness	6	69
Response to WMD / Bio Terrorism	7	59
Code Enforcement	8	58
Fire Investigation	9	28
Community Fire / EMS Safety Education	10	22

Customer Expectations

Understanding what the community expects of its fire and emergency services organization is critically important to developing a long-range perspective. The following are the expectations of the community's External Stakeholders.

Customer Expectations of the LOS ALAMOS COUNTY FIRE DEPARTMENT (in priority order)

1. Quick fire response time.
2. Quick EMS response time with qualified and knowledgeable people.
3. To arrive at all calls in a timely manner.
4. Rapid response time.
5. Prompt and efficient response by well trained and equipped personnel.
6. To have the knowledge and education to perform the wide variety of tasks that they are expected to perform.
7. Extensive and continuous training program to maintain a high level of readiness.
8. Excellent fire suppression and EMS services.
9. To competently, expertly and quickly perform the tasks before them.
10. Fire suppression for the entire community.
11. Working in conjunction with county and LANL coordinators for optimum control and suppression of natural and manmade disasters.
12. To be prepared as first responders to incidents / calls.
13. That fire department resources are available when needed and wherever needed.
14. Experienced, educated staff members
15. To have the proper equipment to deal with whatever calls.
16. Effective contingency planning.
17. Mitigation of preventative conditions increasing fire risks.
18. Emergency preparedness and all that it implies.
19. To respond with properly trained personnel and appropriate equipment.
20. Building inspections to point out problem areas.
21. To provide services in a professional manner.
22. Up to date working equipment.
23. A focus on being able to properly respond in the timeliest manner.
24. To be courteous in interactions with the public.
25. Technical knowledge.
26. Cost effectiveness.
27. To behave in a professional and friendly manner at all times.
28. Visibility and engagement in the community.
29. Provide feedback after the emergency event to the homeowner or person receiving the services to help for future home safety / prevention.
30. Workers who know what to do in various situations and who can think on their feet.
31. An operational approach that focuses on how best to service LA County residences, businesses and the Laboratory.
32. Provide solving skills for any reassessment necessary for a situation.
33. Provide advice and guidance when asked.
34. Provide education and training to community groups on fire safety and emergency response.



Positive Customer Feedback

The External Stakeholders provided the following comments when asked to identify the positive aspects of the department.

Positive Customer Comments about LOS ALAMOS COUNTY FIRE DEPARTMENT

• Already is the best fire / ambulance of any place I have ever lived.
• My limited observations in the community, hospital, and TA-48 of their performance make me feel and believe that myself, community, and laboratory are in competent and caring hands.
• Demonstrated competence and dedication. Because of DOE/LANL needs, the department is very large and well equipped to meet general community needs.
• Appreciate the invitation to participate in this program and hear our feedback.
• Dedication: Response in year 2000 still has incredibly positive memories for me.
• The leadership at the fire department has been constant, and has benefited our community. When given a request, they do not say no to the community, but figure out a way to get it accomplished.
• Highly trained and professional personnel. Highly motivated.
• Very good equipment.
• Very good admin system and personnel.
• Very well trained and equipment.
• Good response to emergency situations and community concerns.
• All seem to be highly trained when I've had occasion to interact with them.
• Always present.
• Very competent and responsive.
• Very helpful and quick to respond.
• Very willing to work with community (i.e. visiting schools to teach about fire safety).
• High quality individuals.
• Officers look to improve fire protection / response program.
• I like the way you have saved people's homes from fire, smoke and or water.
• I just moved here and numerous people have told me about the fire a few years ago, and how well the fire department handled the process. Way to go guys!!
• Appearance of caring about the community.
• Work with other organizations to address problems.
• Had good interaction when asked Fire Marshal for advice on historical archives in the Fuller Lodge.
• Training for handling different events (fire, radiological fire, etc.) appears good.
• Strong resource base.
• Strong interest in community feedback.
• Recent changes to provide general county funding for LACFD costs.



ISO Classification

The April 2005 Public Protection Classification survey of the LAFD resulted in a classification of Class 2/9. In January 2007, the LAFD classification changed from a Relative Class 2 to a Relative Class 1.

This reflects notable improvement from the ISO rating issued in 1992. At the time, the total credit issued by ISO was 72.38/100 for a classification of 3.

Community Expectations and Performance Goals

Service level categories have been identified through the —risk assessment process which is described in Section D Risk Assessment and Section F Performance Objectives and Performance Measures of this document. Service level categories based upon the risk analysis are established and presented in this section. The following service level categories have been identified and established:

- Suburban Area
- Rural Area

Service level categories have been identified using the CFAI Self Assessment guidelines and census tract data. These service level categories are established based upon population per square mile of service area within a specific fire district utilizing US Census data.

A suburban designation refers to an incorporated or unincorporated area with a population of 10,000 to 29,999 people and/or any area with a population density of 1,000 to 2,000 people per square mile. No census tracts fit this distinction as a whole but parts of 3 do. Therefore, the following fire districts have been designated as suburban:

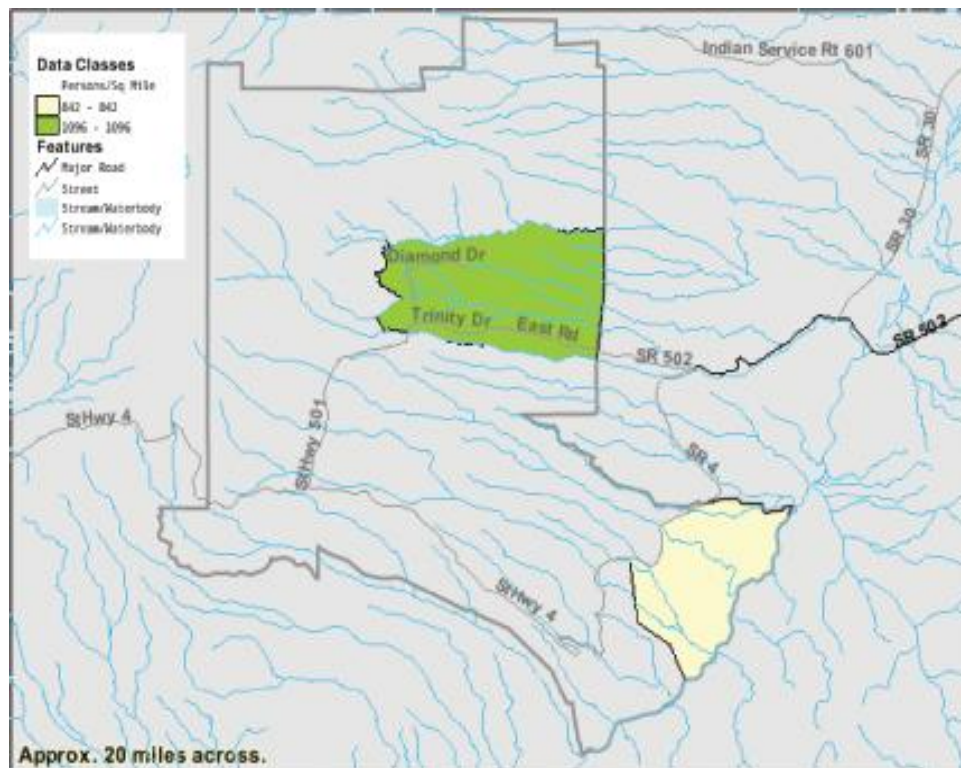
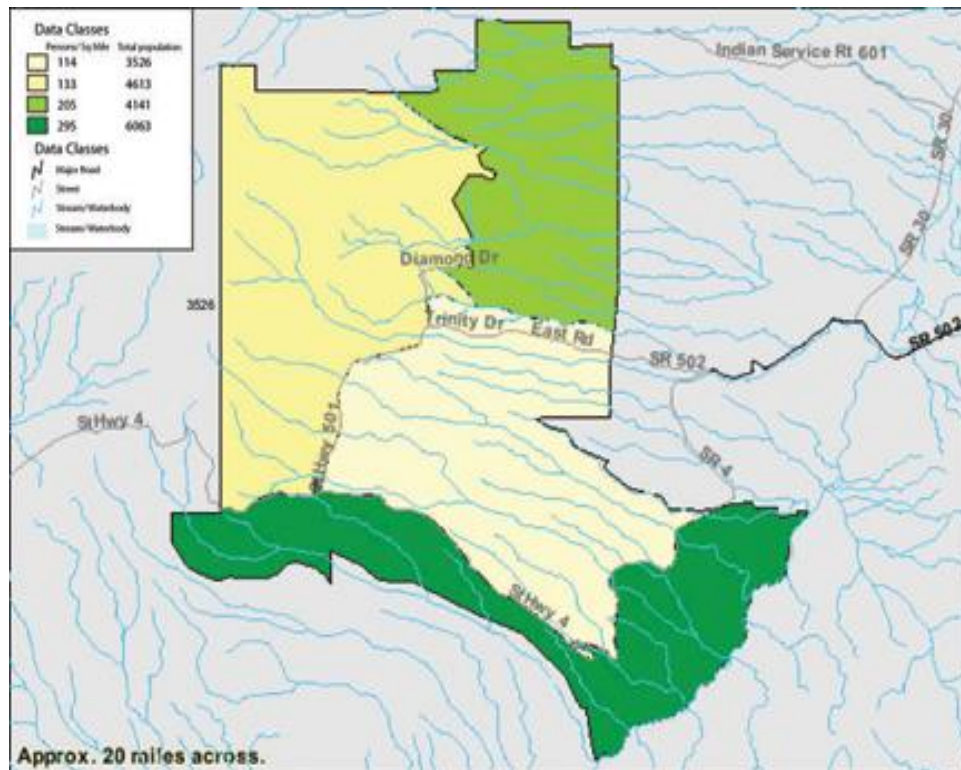
Fire Districts 1-5, 1-6, and 6-1,

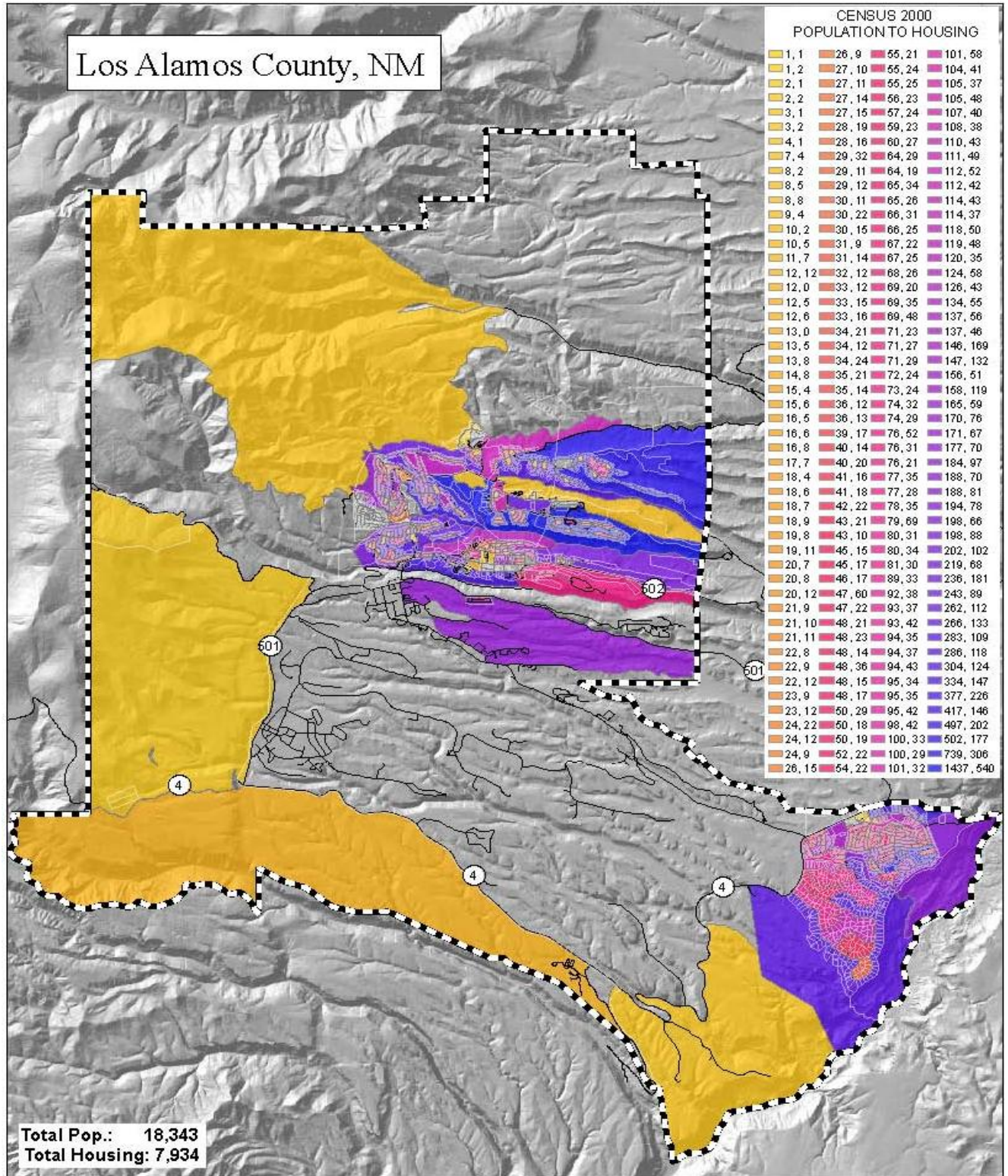
A rural designation refers to incorporated or unincorporated area with a total population of less than 10,000 people or with a population density of less than 1,000 people per square mile. The following fire districts meet this definition:

Fire District 1-4, 3-30E, 30-1E, 30-3E, 4-1, 5-1, 5-30E and 6-30



CENSUS POPULATION MAPS





D. Community Risk Assessment and Risk Levels

Risk Assessment Model

The LAFD must assess risks based upon the potential frequency (probability of an incident occurring) and consequence (potential damage should an event occur). For example, a terrorist act has a low probability; however, if a terrorist act occurs, the damage and the psychological impact are potentially very high. This same outlook regarding risk assessment can also be applied to natural disasters. For example, an earthquake generally does not hit the same community every year; but if it does strike, the damage can be great. Conversely, medical emergencies happen every day. The overall potential damage from medical emergencies to the community as a whole is not nearly as significant as that from an earthquake or other natural disaster though these individual incidents greatly affect those requiring the service. To design future deployment strategies, the department must be able to compare the potential frequency and potential damage of events that may affect the community and service area.

Risk management is the analysis of the chance of an event occurring and the resulting damage that could occur as a result of the event.

For example: structure fires are relatively infrequent in comparison to medical incidents in the County of Los Alamos and its service areas; however, the loss of subsequent dollars, loss of irreplaceable items, and loss of business or jobs make the consequences of such fires high; activation of automatic fire alarms is high probability with low consequence; earthquakes or a large hazmat incident may be infrequent but represent a large potential loss to life and property. Comparatively, a dumpster fire may be a high probability but have little consequence outside of the fire response. With an understanding of the different levels of probability and consequences, proper strategic planning in respect to risk management and resource deployment can take place.

The challenge in community risk management does not lie solely in the work necessary to assess the probabilities of an emergency event in a community, but in the political arena as well. It is the policy makers who will determine the level of service to be delivered to the area being served.

Risk Assessment Natural Hazards

Risk from natural hazards is a combination of hazard and vulnerability. The risk assessment process measures the potential loss to a community; including loss of life, personal injury, property damage and the economic injury resulting from a hazard event.

The risk assessment process allows a community to better understand their potential risk and the associated vulnerability to natural hazards. This information provides the framework for a community to develop and prioritize mitigation strategies and plans to help reduce both the risk and vulnerability from future hazard events.

This risk assessment for LAC followed the methodology described in the FEMA publication 386-2 *"Understanding Your Risks – Identifying Hazards and Estimating Losses"* and was based on a four-step process:

(1) Identify Hazards, (2) Profile Hazard Events, (3) Inventory Assets, (4) Estimate Losses



Hazards Identification

The Department conducted a hazard identification study to determine what hazards threaten the LAC planning area. This section of the Plan documents the previous occurrence of natural hazards, those that might occur in the future, and the likelihood of their recurrence.

This section begins with an overview of the declared disasters in LAC and leads to a detailed hazard profile for the identified hazards. The purpose of this section is to profile all the natural hazards that affect, or could affect LAC. For each hazard, a generic description of the hazard and associated problems is provided, followed by details on the hazard specific to LAC. Information on past occurrences, including the extent or location of the hazard within or near the County, and impacts, where known, are discussed here. Information provided by planning team members are integrated in this section with information from other data sources, such as National Weather Service databases. The frequency of past events is used in this section to gauge the likelihood of future occurrences. Based on historical data, the frequency of occurrence is categorized into one of the following classifications:

Highly Likely: *Near 100% chance of occurrence in next year, or happens every year.*

Likely: *Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.*

Occasional: *Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.*

Unlikely: *Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.*

The frequency, or chance of occurrence, was also calculated where possible based on existing data. Frequency was determined by dividing the number of events observed by the number of years and multiplying by 100. This gives the percent chance of the event happening in any given year. An example would be 3 droughts occurring over a 30 year period which equates to 10% chance of that hazard occurring any given year.

Utilizing the existing New Mexico State All Hazard Mitigation Plan, portions of the County Emergency Response Plan, as well as input from the planning meetings, the Department agreed upon a list of those natural hazards of concern to the LAC community. Historical data from the National Oceanic and Aeronautic Administration (NOAA), National Climatic Data Center (NCDC), New Mexico Office of Emergency Management, and other sources were also examined to confirm the significance of these hazards to the planning area. Significance was measured in general terms, focusing on key criteria such as frequency and resulting damage, including, deaths/injuries and property, crop, and economic damages to the community.

The natural hazards identified and investigated for LAC include:

- Wildfires
- The impact of Pine Beetle Kill
- Severe Weather; including;
 - Monsoons
 - Hail and Wind
 - Winter Storms
- Floods; including
 - Dam Failure
- Drought
- Rock fall
- Earthquakes
- Volcanoes

Also discussed by the Department, the natural hazards set forth below were eliminated from further consideration because: (1) they either occur rarely or not at all, and (2) when they do occur, no or very limited damages are sustained.

- Avalanche
- Landslide
- Tornado

Disaster Declaration History

One method to identify hazards based upon past occurrence is to look at what events triggered federal and/or state disaster declarations within the LAC planning area. Disaster declarations are granted when the severity and magnitude of the event's impact surpass the ability of the local government to respond and recover. Disaster assistance is supplemental and sequential. When the local government's capacity has been surpassed, a state disaster declaration may be issued allowing for the provision of state assistance. Should the disaster be so severe that both the local and state government's capacity is exceeded; a federal disaster declaration may be issued allowing for the provision of federal disaster assistance.

Within LAC, there have only been two federal declarations both related to the Cerro Grande Fire in May of 2000. The first was an Emergency Declaration on May 5, 2000 (FEMA # 3154). The second was a Major Disaster Declaration (FEMA # 1329). The unique circumstances surrounding the wildfire then resulted in the Cerro Grande Fire Assistance Act (CGFAA) – an Act of Congress, which superseded the two FEMA Declarations. Together, these three disaster assistance mechanisms resulted in over \$1 billion in federal money being provided to the affected jurisdictions.

Aside from the mandatory state declarations necessary to trigger these federal designations, there have been no other state declarations. ***(Sources: FEMA website; NM Recovery & Mitigation Unit Chief; 2001 Cerro Grande Recovery Plan)***

It is also important to note that the federal government may issue a disaster declaration through the U.S. Department of Agriculture and/or the Small Business Administration, as well as through FEMA. The quantity and types of damage are the determining factors. In fact, on November 22, 2003, the U.S. Secretary of Agriculture designated all counties in New Mexico, except Los Alamos County, as primary natural disaster areas due to losses caused by drought. LAC was excluded because there is minimal commercial agricultural activity in the County. *(Source: U.S. House of Representative's Press Release 11/22/03)*

Wildfires

Risk Assessment

Historical data has shown that wildfires are the most frequent natural occurring hazard threatening LAC. Wildfires are uncontrolled fires in forested or other vegetated landscapes. They are often caused by lightening or people and they create a significant threat to life and property. The area most at risk is the wildland and urban interface (WUI). Nationally, this area increases as communities expand into previously uninhabited forested areas. Interestingly, in LAC, the opposite is true. The community has seen very limited growth over the past two decades. Rather, the forest has grown into the town perimeter.

Wildfires often result from other natural hazards and leave burned areas vulnerable to additional hazards as well. This is the case in LAC. For example, the wildfire vulnerability resulting from lightening is further increased as a result of the dry and drought-like conditions. These conditions weaken trees increasing their vulnerability to Pine Beetle Kill, which in turn provides greater quantities of fuel which lightening can then ignite. Pine Beetle Kill is the result of a beetle that bores itself into the bark of pine trees, spreading a blue stain-like fungus that kills the tree very rapidly. The post-fire environment is then more susceptible to erosion, debris-flows and flooding. The wildfire season in LAC is typically between May 1 and July 1. Generally, there are three major factors that sustain wildfires and allow for predictions of a given area's potential to burn. These factors are fuel, topography and weather.

- **Fuel** - Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is generally classified by type and by volume. Fuel sources are diverse and include everything from dead tree needles, twigs and branches, to dead standing trees, live trees, brush and cured grasses. Also, to be considered as fuel sources are man-made structures and other associated combustibles. The type of prevalent fuel directly influences the behavior of wildfire. Light fuels, such as grasses, burn quickly and serve as a catalyst for fire spread. Ponderosa pines are especially volatile due to the resins they produce. The volume of available fuel is described in terms of fuel loading. The areas in and surrounding LAC is extremely vulnerable to fires as a result of overly dense forests creating an accumulation of fuel, combined with a growing number of structures being built near and within the forested lands. The forest itself has also grown into the town.



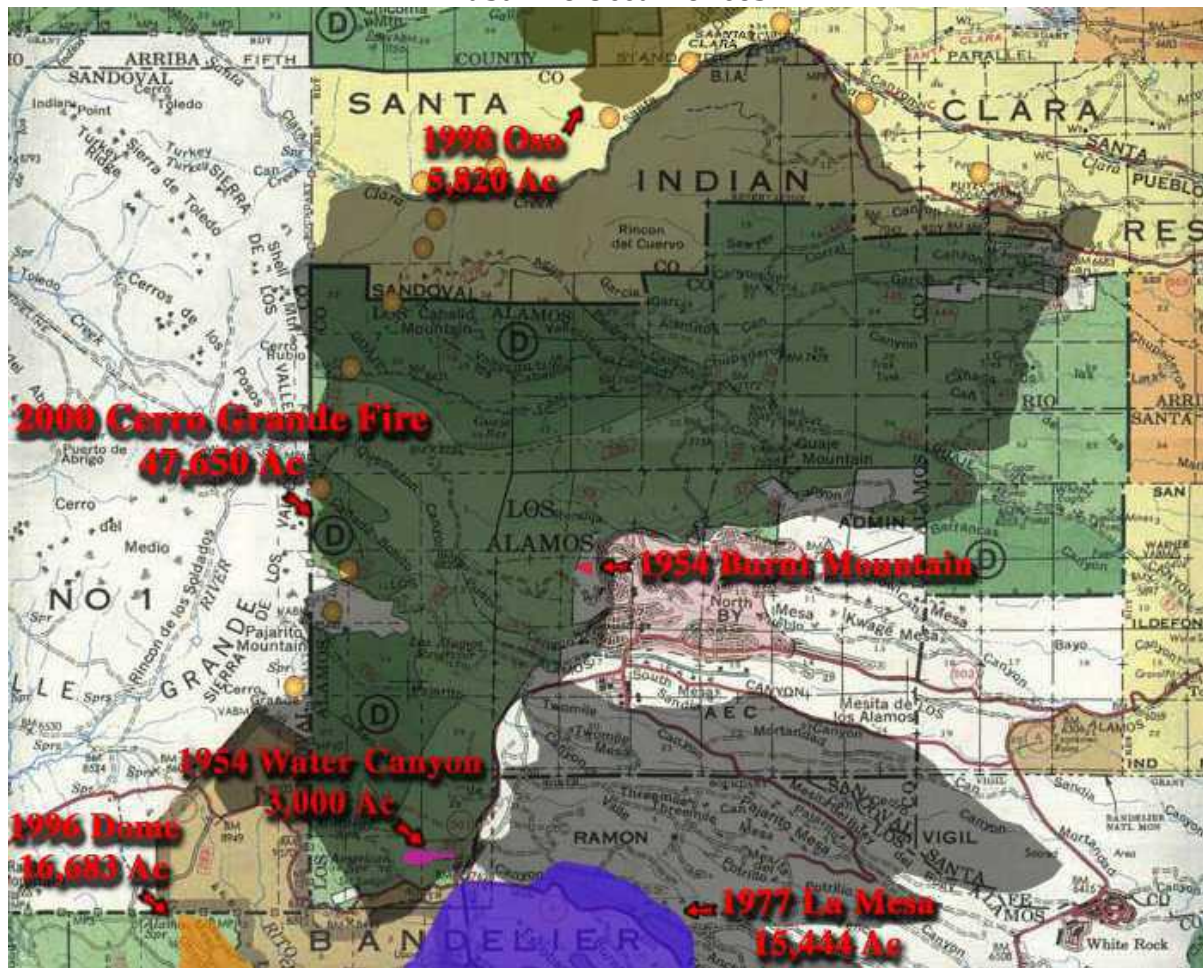
- **Topography** - An area's terrain and land slopes affect its susceptibility to wildfire spread. Fire intensities and rates of spread increase as slope increases due to the tendency of heat from a fire to rise via convection. The natural arrangement of vegetation throughout a hillside can also contribute to increased fire activity on slopes. Fires also burn more intensely in narrow canyons, chutes and saddles as these land features create natural constrictions for fire, forcing flames and heat to funnel through these areas. LAC was originally built at the base of a mountain on mesas surrounded by long, steep, forested canyons. Growth in the County has continued to expand into the forested areas located on the hillsides. The topography of LAC acts as a natural accelerant for fire.

- **Weather** - Weather components such as temperature, relative humidity, wind and lightning also affect the potential for wildfire. High temperatures and low relative humidity dries out fuels that feed the wildfire creating a situation where fuel will readily ignite and burn more intensely. Wind is the most treacherous weather factor. With intense wind speed, the faster a fire will spread and the more intense it will become. Winds can be significant in New Mexico, including LAC. In addition to high winds, wind shifts can occur suddenly due to temperature changes or the interaction of wind with topographical features such as canyons or steep hillsides. Related to weather is the issue of recent drought conditions in New Mexico contributing to concerns about wildfire vulnerability. The drought has not escaped the higher elevations of LAC as evidenced by the dying pinon pine forests in the southern an area of LAC, as well as, similar impacts to the ponderosa pine ecosystem has exacerbated the existing beetle kill problem for both pinons and ponderosas. During periods of drought, the threat of wildfire increases. Drought conditions have persisted for the last six years leaving LAC more susceptible to wildfires.

Past Occurrences. Within the past 50 years alone, there have been numerous major wildfires within LAC and the immediate vicinity. These include:

- Water Canyon Fire, 1953, 6,000 acres
- Burnt Mountain Fire, 1954, 1000+ acres
- La Mesa Fire, 1977, 15,444 acres
- Dome Fire, 1996, 16, 683 acres
- Oso Complex Fire, 1998, 5,820 acres
- Cerro Grande Fire, 2000, 47,658 acres

Past Fire Occurrences



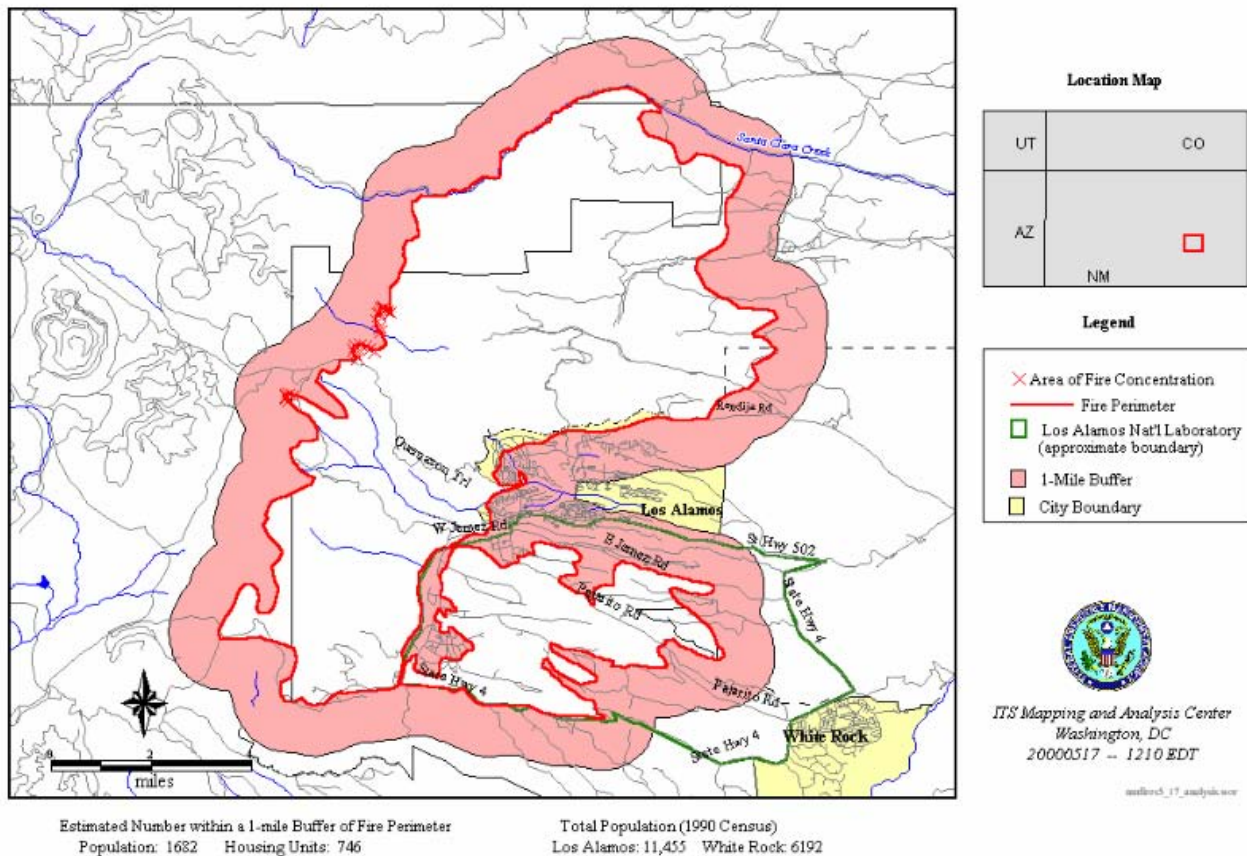
(Source: LAC OEM, 2001)

The Cerro Grande fire had by far the greatest impact to LAC. The Cerro Grande Fire began on Thursday, May 4, 2000, when National Park Service personnel ignited a prescribed burn with the intent of mitigating future fire risks by reducing the increasing fuel loads. Sporadic and changing winds carried fire embers up and away causing the fire to “spot” across the fire line. Control was lost and the prescribed burn was declared a wildfire on May 5th. The fire was initially contained on May 6 and 7 until significant wind speed increases resulted in a major wildfire outbreak. On May 10, carried by increasing winds, the wildfire entered Los Alamos Canyon and moved towards the town site of Los Alamos. Approximately 18,000 people, the entire populations of Los Alamos and White Rock, were evacuated. The fire spread rapidly over the next few days, burning public, private and Pueblo lands.

In Los Alamos, 239 residential structures were burned, displacing over 400 families. More than 25% of LANL lands were burned, including numerous small buildings, historic structures, vehicles, utilities and environmental monitoring stations. The fire continued to spread onto private lands and lands of San Ildefonso and Santa Clara Pueblos. The fire encompassed approximately 47,000 acres.

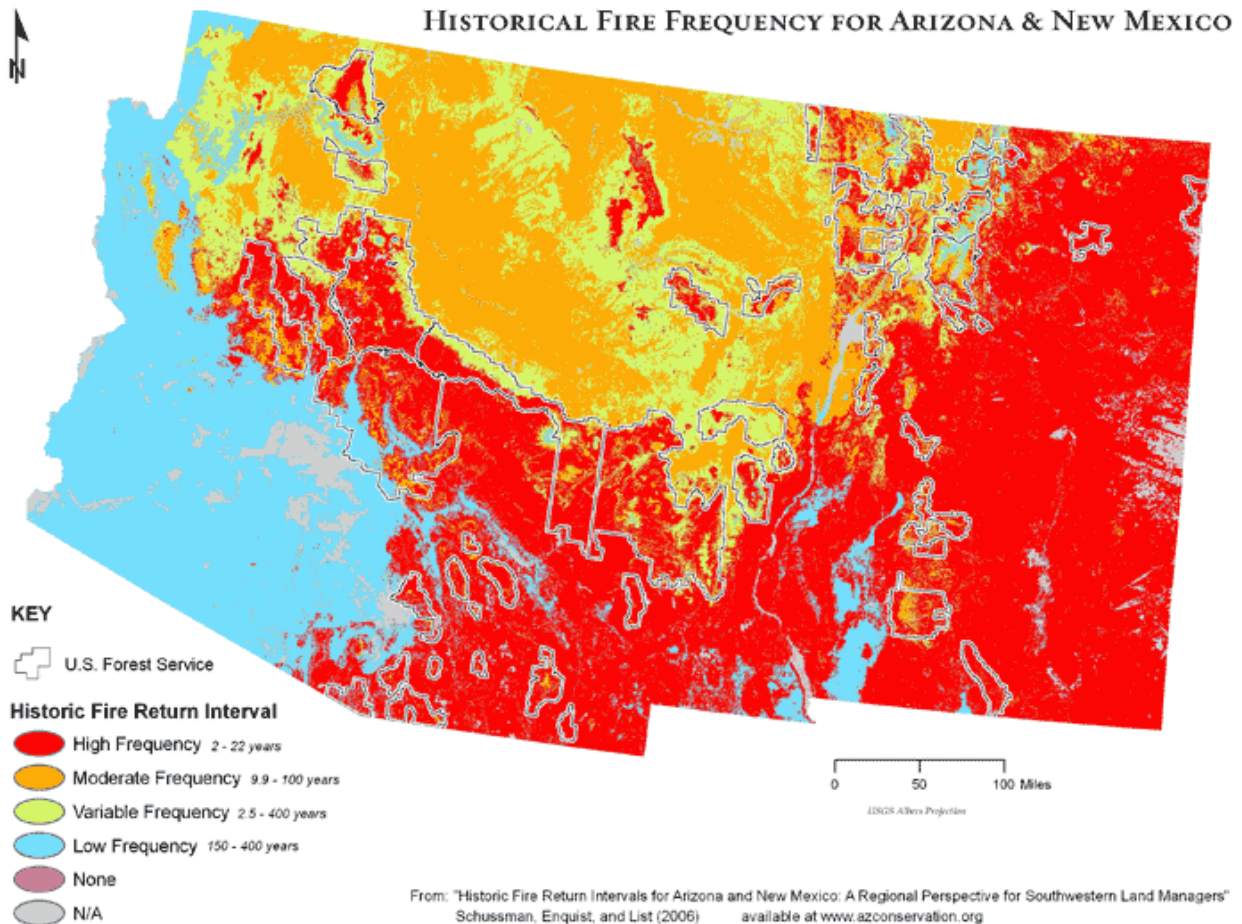


FEMA-1329-DR - New Mexico Wildfire Los Alamos, NM - Remote Sensing as of 5/17/00



The National Interagency Fire Center reports indicate that New Mexico has averaged 1301 wildfires per year burning a total of 1,000,883 acres between 2007 and 2009. These include fires caused naturally by lightning as well as fires caused by man and/or unknown causes. The historical fire frequency map (below) clearly illuminates the wildfire problem facing the State of New Mexico and LAC.





(source:http://nmconservation.org/projects/southwest_forest_assessment)

Even since the Cerro Grande fire in 2000, there have been numerous wildfires in the forested public lands near LAC. Many of these fires occurred in areas with weather, vegetation, and topography similar to that found in LAC.

Likelihood of Future Occurrences;

Likely: Based on historic data, the LAC vicinity has experienced six major wildfires in the last 50 years. This is an average of one fire every 8.3 years, or a 12% chance of a fire any given year.

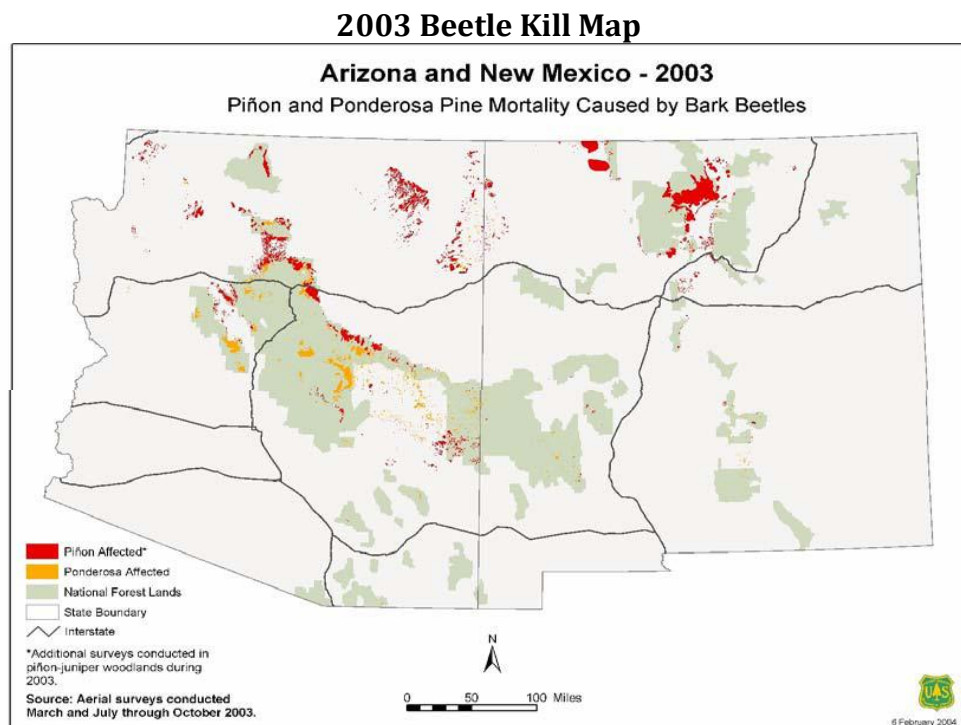
The risk of wildfires to LAC has been and continues to be great. According to an analysis conducted as part of the Los Alamos County Long-Term Recovery, Redevelopment & Hazard Mitigation Plan developed in response to the Cerro Grande Fire and adopted March 13, 2001, the planning team substantiated an increased risk of future wildfire as a result of the Cerro Grande fire. An initial reaction to this concept might be that the risk of wildfire would be decreased because all the fuel has been burned, this was not the case. Several scientific research papers have been developed since the Cerro Grande fire. These papers all suggest similar conclusions:



- Within the burned areas the dead and dying standing trees, dead fallen trees, rapid re-establishment of ground-cover, and increased presence of beetles and beetle kill all contribute to an increase in post-fire fuels with high flammability. This risk increases with time as damaged trees fall to the ground and new growth reestablishes “ladder fuels.”
- Depending upon fire severity within the burned areas, regrowth occurs at different rates. Post-fire fuels can support greater flame lengths than those experienced for up to the next 12 years.
- Unburned areas adjacent to burned areas remain over-burdened with high fuel loads and because they are contiguous to areas with an increased risk of fire, the risk within these areas increases as well.
- The “hazard trees” (dead and dying trees remaining standing), snags, and stump holes create an additional hazard in themselves.

Beetle Kill and Forest Health

Beetle Kill can significantly impact forest health and contribute to wildfires. A community forum called Wildfire 2003, conducted in April 15, 2003, on fire conditions and emergency plans for LAC and the Jemez Mountains, concluded that the drought over the past two years has left New Mexico's forests highly vulnerable to fires. Trees and underbrush are tinder dry, and bark beetles are leaving large stands of dead forest. According to a New Mexico State University horticulturalist, in 2001 bark beetles had infested 71,675 acres of New Mexico forest; in 2002, the infestation spread to 164,635 acres and it was continuing to increase in 2003. The following 2003 beetle kill map, prepared by the US Forest Service, illustrates the impact of beetle kill in the area. LAC is located in the North Central Area colored red.



The amount of dead wood fuels is quite extensive in LAC due to the extensive drought and insect-caused mortality of the last several years. However, the actual risk of a damaging crown fire is actually decreasing in many of the pinon-juniper woodlands. This decrease is because the mass and continuity of live canopy fuels are reduced as dead needles fall from the trees, usually occurring within a year of tree death. Large, intense fires in southwestern pinon-juniper woodlands almost always occur as wind-driven crown fires under conditions of extremely low humidity and fuel moisture. Crown fires, which are extremely difficult to fight, primarily burn the live needles and small twigs of trees, not the coarse wood of stems and branches that typically remain after crown fires. Dead pinon trees generally do not remain standing for long; they usually begin to break apart and fall to the ground a few years after death. As pinon trees decay, the potential energy content of the residual wood declines markedly. Downed wood fuel mass on the ground will indeed increase, and may result in locally intense burning if a fire is ignited. These patchily distributed dead fuels probably will not carry severe fires over large areas in the same way as an intact canopy of live pinon and juniper. Thus the local expression– “standing red versus standing dead.” Furthermore, firefighting technology is more effective at controlling surface fires.

In LAC and vicinity, most of the needles have fallen from the trees. Thus, rather than elevating the risk of catastrophic fire, the recent episode of widespread tree mortality is followed by reduced fire hazard for several decades because the canopy fuel bed has been effectively thinned. However, this “reduced fire hazard” should be considered in relative terms given other fire risk factors in the LAC planning area, as already described in this section. Also, contributing to the risk of wildfires is the nature and frequency of lightning in an area.

Further compounding the risk of wildfire, long-term drought conditions continue to plague the region. According to the U.S. Forest Service Southwest Area Wild Land Fire Operations, this is due to; rapidly decreasing early spring snowpack, significant vegetative stress and dieback due to insect damage and drought effects, and a forecast for near normal April weather conditions followed by abnormally warm and dry conditions from May through early July.

Severe Weather

Severe weather is generally any destructive weather event, but usually occurs in LAC as localized storms, such as, monsoon thunderstorms, winter storms, and strong wind and hail events. Severe weather occurs in many forms and varies significantly in size, strength, intensity, duration, and impact. Elements to consider in evaluating severe weather include temperature, winds and precipitation. The following sections discuss weather typically experienced in LAC.



Monsoons

The term monsoon generally refers to a seasonal wind shift, or monsoon circulation, that produces a radical change in moisture conditions in a given area or region. In the Southwestern United States, this shift in wind direction is primarily the result of two meteorological changes:

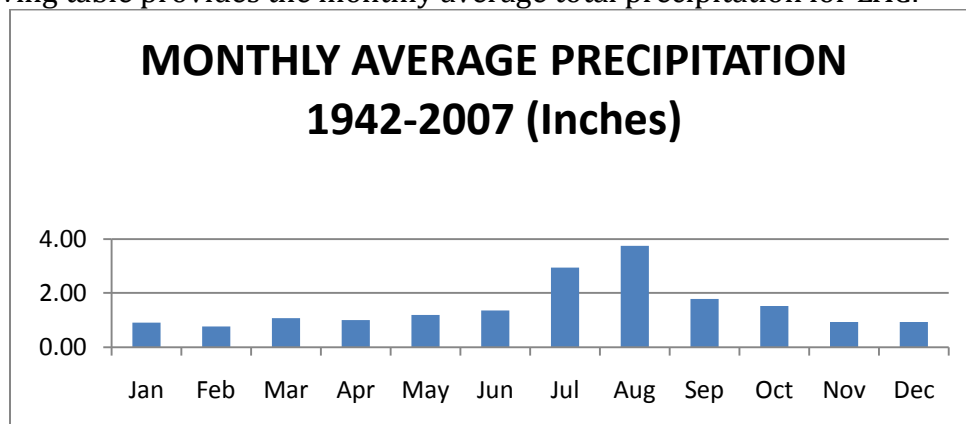
- The movement northward from winter to summer of the huge upper level subtropical high pressure system, specifically known as the Bermuda High, and the intense heating of the Mohave Desert that creates rising air and surface low pressure, called a thermal low.

These two features then combine to create a strong southerly flow that helps bring in moisture (i.e. from the Gulf of Mexico, the Gulf of California, and the Pacific Ocean) that lifts and forms thunderstorms when it encounters the higher terrain of New Mexico, including Los Alamos. The monsoons are significant to LAC for two reasons. First, on the positive side, the monsoons can temper the fire season. Second, since the Cerro Grande fire, flooding in LAC is directly related to monsoon thunderstorms and the associated precipitation running off the burned areas. The runoff causes flooding and erosion and creates an ongoing maintenance need to maintain clear passage of runoff through culverts.

Past Occurrences

In LAC, summer begins with warm, and often dry, conditions in June, followed by a two-month rainy season. This rainy season in July and August, often referred to as the “monsoon” season, is really just predictable afternoon rainstorms that comprise approximately 36% of the annual 18.7 inches of precipitation. However, the annual total fluctuates considerably from year to year. The lowest recorded annual precipitation is 6.8 inches and the highest is 30.3 inches. The maximum recorded precipitation for a 24-hour period is 3.5 inches; the maximum 15-minute precipitation on record is .9 inches. Because of the eastward slope of the terrain, there is a large east-to-west gradient in precipitation across the plateau. As a result, White Rock often receives noticeably less annual precipitation than the official observing station within LANL boundaries, while the eastern flanks of the Jemez Mountains often receive more.

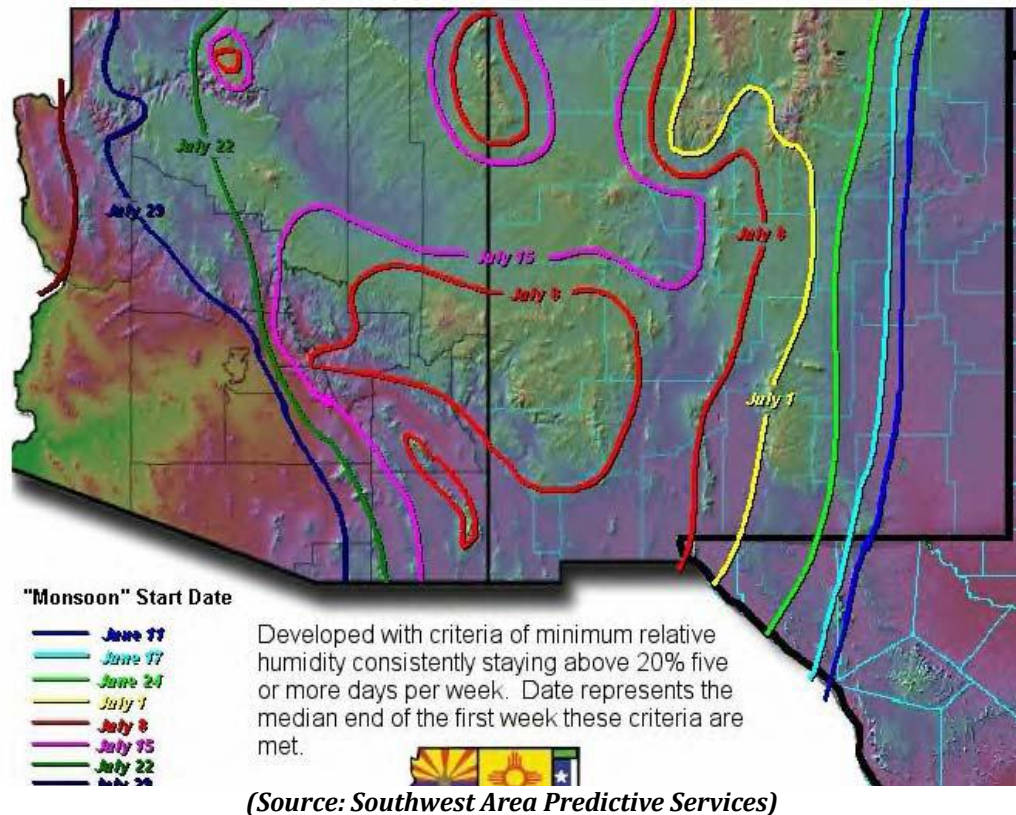
The following table provides the monthly average total precipitation for LAC:



(Source: Western Regional Climate Center)



Consistent with the monthly annual precipitation records, the following map illustrates the monsoon season “start date” in the New Mexico and LAC region.



Likelihood of Future Occurrences

Highly Likely: The monsoon in the Southwestern United States is a well documented seasonal occurrence that is anticipated to continue in the future during the July/August “monsoon” season.

Wind and Hail

Typically associated with the monsoon/thunderstorm season is the frequent occurrence of wind and hail. Wind is the motion of air relative to the earth’s surface. Wind is caused by the movement of air from areas of high pressure to areas of low pressure. The greater the difference in pressure, the stronger the wind. Hail is a round or irregularly shaped piece of ice that falls from a cumulonimbus (thunderstorm) cloud. Hail can range in diameter from pea sized to baseball or even grapefruit sized. The greater the diameter the more destructive and dangerous the hail can be. Wind and hail can result in property damage and injury. Associated hazards in this area include: utility outages, arcing power lines, downing of trees, debris blocking streets and an occasional structure fire. Hail and wind often accompanies thunderstorms and can break windows, dent automobiles, damage rooftops, and injured persons.



Past Occurrences

In an average year, Los Alamos experiences 61 thunderstorm days a year, about twice the national average. In addition to lightning, hail often occurs with these summertime convective thunderstorms. Hailstones of .25 inches are common, but stones up to 2 inches in size have been reported. Hail has caused significant damage to property and vegetation and localized accumulations of three inches have been observed.

Los Alamos winds are generally light, having an annual average of 5.5 miles per hour.

However, the period from mid-March to early June can be windy. During this windy period, sustained wind speeds exceeding 8.8 miles per hour occur 20% of the time during the daytime and the daily maximum wind gust exceeds 31 miles per hour about 20% of the time. The highest wind gust in record is 77 miles per hour. No tornadoes are known to have touched ground in the Los Alamos area; however, funnel clouds have been observed in Los Alamos and Santa Fe counties.

Likelihood of Future Occurrences

Likely: Based on historic data, LAC has experienced 10 recorded hail events between 1961 and 2000. This is an average of one hail event every 3.9 years, or a 26% chance of a hailstorm in any given year. Hail and wind are typically associated with the monsoon and thunderstorm season occurring during the 2-month rainy season in July and August. Due to the seasonal wind shift that occurs as a result of the two meteorological changes in the southwestern United States, the increase in moisture conditions over LAC will continue to occur annually during the rainy season bringing with it hail and wind events.

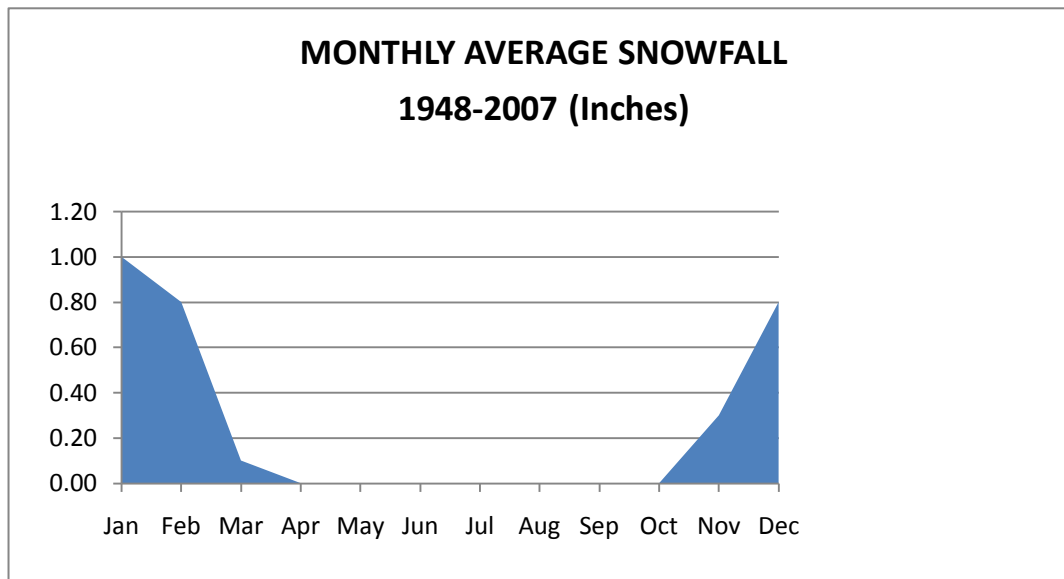
Winter Storms

Winter storms occur when precipitation and freezing temperatures mix to produce a significant accumulation of snow or ice. Winter storms are often worsened by wind that produces blowing and drifting snow and reduced visibility. Winter storms can be quite disruptive. Road closures can occur causing people to become stranded; accidents occur; power, water and sewer services can be temporarily interrupted. These events can cause great impact to a community depending on the severity and duration of a storm. Due to LAC's remote location, winter storms can easily hamper the limited access from other communities, including even White Rock.

Past Occurrences

In LAC, winter precipitation occurs mostly as snow, which is generally dry. Freezing rain is rare. The bulk of the snowfall generally occurs during the months of December and January, but can occur anytime between the months of October through May. Annual snowfall averages 59 inches but is quite variable. The highest recorded snowfall for one season is 153 inches (1986-87); the highest recorded snowfall for a 48-hour period is 57 inches. In a typical winter season, snowfalls equal to or exceeding 1 inch occur on 14 days, and snowfalls equal to or exceeding 4 inches occur on four days. The following table illustrates average and extreme snowfalls for a 24-hour period.





(Source: Western Regional Climate Center)

Information obtained from the NCDC and other sources consulted did not report any winter storms occurring in LAC between 1948 and 2007 that caused any reportable damage to people or property. However, according to the Department, school and lab closures generally occur several times a year due to heavy snows.

Likelihood of Future Occurrences

Highly Likely: Based on historic information for the Los Alamos area, snowfall in Los Alamos is generally moderate with an average snowfall of 59 inches per year. However, snowfall in the area can be highly variable. As a result of this data, the Department concludes that winter storms will continue to occur in the future, most probably on an annual basis, but that damages associated with these events should be minimal.

Floods

Floods are among the most frequent and costly natural disaster nationally in terms of human hardship and economic loss. Riverine flooding is defined as when a watercourse exceeds its "bank-full" capacity and is usually the most common type of flood event. Riverine flooding generally occurs as a result of prolonged rainfall, or rainfall that is combined with soils already saturated from previous rain events. The area adjacent to the channel is the floodplain. In its common usage, the floodplain most often refers to that area that is inundated by the 100-year flood, the flood that has a 1% chance in any given year of being equaled or exceeded. Other types of floods include: general rain floods, thunderstorm generated flash-floods, alluvial fan floods, snowmelt and rain on snow floods, dam failure floods and local drainage floods. The 100-year flood is the national standard to which communities regulate their floodplains through the National Flood Insurance Program (NFIP).

The potential for flooding can change and increase through various land use changes and changes to land surface. A change in environment can create localized flooding problems in



and outside of natural floodplains by altering or confining watersheds or natural drainage channels. These changes are commonly created by human activities. These changes can also be created by other events such as wildfires. Wildfires create hydrophobic soils – a hardening or “glazing” of the earth’s surface that prevents rainfall from being absorbed into the ground, thereby increasing runoff, erosion and downstream sedimentation of channels. The two types of flood events LAC is most susceptible to include post fire flooding and possible flash-flooding, either as a result of thunderstorms or the unlikely, but possible, failure of the Los Alamos Dam.

Past Occurrences

The Cerro Grande Fire destroyed the protective vegetative cover that normally slows runoff and left in its place high concentrations of hydrophobic ash, making the top layer of soil impervious. As a result, LAC was exposed to an increased risk of flooding, erosion, and mudslides, just prior to the monsoon season.

The increased risk of flooding, erosion, and mudslides was expected to last between 3 and 5 years (2003-2005), before declining towards pre-fire conditions. To date, the NCDC substantiates this. NCDC data identifies the following severe events in LAC between 1950 and 2003. Over half of the events occurred during July and August, the heart of the monsoon season. One third of the events are floods and all six flood events occurred after the Cerro Grande wildfire. The two flood events resulting in property damages were clearly the result the increased runoff conditions created by the hydrophobic soils left in the aftermath of the Cerro Grande Fire.

Dam Failure Flooding

A dam failure flood is when the partial or complete collapse of an impoundment causes flooding downstream. Dam failures are often the result of prolonged rainfall and flooding, but can happen in any conditions due to erosion, piping, structural deficiencies, lack of maintenance and repair, or the gradual weakening of the dam over time. Other factors that can lead to dam failure include earthquakes, volcanic lahars, landslides, improper operation, rodent activity, vandalism or terrorism. Dam failures can inflict severe damage and losses due to the sudden release of large volumes of water downstream.

In September of 2001, LAC acquired ownership of the Los Alamos Dam from the federal government. The dam is an earth embankment dam that is approximately 40 feet high and 175 feet long with an approximate reservoir storage capacity of 28 acre-feet based on the permit application dated August 16, 1937. The drainage area above the dam is approximately 5 square miles and the entire watershed was burned during the Cerro Grande fire. The Phase 1 report for the dam dated August 1992 indicates that construction included a 12 to 18-inch thick concrete cutoff wall from the rock elevation to the high water line and a puddle clay core cutoff along the centerline.

According to a recent inspection by the State Engineer in April of 2003, it was determined that the crest of the dam is in satisfactory condition and covered with concrete. The emergency spillway, located in the center of the dam, is a 155-foot long concrete chute over

the dam with a bottom width of 8 feet. The maximum discharge capacity of the emergency spillway is 1000 cubic feet per second. The emergency spillway is in satisfactory condition.

The dam is currently used as a flood control dam. However, LAC will return the Los Alamos Reservoir to a water supply reservoir once the watershed has recovered from the Cerro Grande fire. Although the dam was previously listed as a low hazard dam in the Office of State Engineer's dam inventory, based on the 2003 inspection it was recommended that the dam be classified as a high hazard potential dam on the dam inventory. A dam failure could impact future water supply plans, as well as cause downstream erosion, though the resulting flood would be confined to Los Alamos Canyon. The only potential downstream damage would possibly be to the Ice Rink, which should be evacuated when there are indications of a dam failure, and debris blockage to the culverts at Highway 502. There have been no historic flood events in LAC as a result of dam failure.

Likelihood of Future Occurrences

100-year flood – Occasional: The 100-year flood is the flood that has a one percent chance in any given year of being equaled or exceeded. Outside the 100-year floodplain:

Post Cerro Grande Fire - Highly Likely: Based on historic data, LAC has experienced six flood events between 2000 and 2004. This is an average of 1.5 floods each year.

Dam failure flood – Unlikely: There have been no historic flood events in LAC as a result of dam failure.

LAC participates in the NFIP. NFIP and NCDC statistics substantiate that little risk existed prior to the Cerro Grande fire. This is primarily due to the fact that the community is built on the mesa tops while the streams run at the bottom of the steep canyons between each mesa. Using current NFIP maps for LAC, the CPT determined that there are no structures located within the mapped 100-year flood plain. Prior to the Cerro Grande fire, according to the NCDC database, there are no records of a flood event in the past 50 years within LAC, and NFIP statistics indicate there were only 8 flood insurance policies, with \$981,600 of insurance in force within LAC. There had been only one paid loss since 1978 for \$930. There had been no substantial damage or repetitive loss determinations.

Current NFIP statistics substantiate both the increased risk and actual damages associated with post-fire flooding in LAC. As of October 31, 2003, FEMA reports that there were 113 policies, with \$28,548,000 of insurance in force. There has also been \$30,869 dollars paid out on 8 additional losses.

Over the next few years the CPT expects, as stated, that flood risk will return to the low pre-fire expectations as the vegetative cover is reestablished. The current flood maps for LAC are available on the FEMA website. The NFIP community identification number for LAC is 350035.

With respect to the Los Alamos dam, as long as the recommended inspection and maintenance activities are performed as required, it is unlikely that the dam will fail unnoticed as a result of a natural hazard.

Drought



Drought is a period of drier than normal conditions that lasts for several months or years. In most cases droughts cause problems with water supply and crops, but in LAC there are no commercial crops and the community wells are so deep that they are not affected. In addition, New Mexico is a very arid state, so “drier than normal conditions” are difficult to define. Drought involves many complex factors, with differing conditions and drivers throughout the state making this a regional focus. New Mexico defines drought regionally based on its effects:

- **Meteorological** - this type of drought is usually defined by a period of below average water supply;
- **Agricultural** – this type of drought occurs when there is inadequate water supply to meet the needs of the state’s crops and other agricultural operations such as livestock;
- **Hydrological** – a hydrological drought is defined as deficiencies in surface and subsurface water supplies; it is generally measured as stream flow, snowpack, and as lake, reservoir and groundwater levels;
- **Socioeconomic** – a socioeconomic drought occurs when the results of drought impact the health, well being, and quality of life, or when a drought starts to have an adverse economic impact on a region.

The drought issue is further compounded by water-rights specific to any state or region. Water is a commodity possessed under a variety of legal doctrines. In New Mexico there are complex water-rights issues between New Mexico and Texas, which address the sharing of the Rio Grande waters. In addition, the prioritization of water rights between farming, recreation and federally protected fish habitats in the state is also at issue.

Past Occurrences

According to the New Mexico Office of the State Engineer, droughts occur on average every 10 years within the state. New Mexico experienced some of its worst drought conditions during 1950’s, but the recent long-term drought may surpass that decade. The year 2000 was one of the hottest and driest on record for the state. Another severe drought year occurred two years later in 2002. New Mexico remains in a long-term drought and currently LAC is in a drought as determined by NOAA, USDA and the New Mexico Drought Monitoring Workgroup.

U.S. Drought Monitor

West

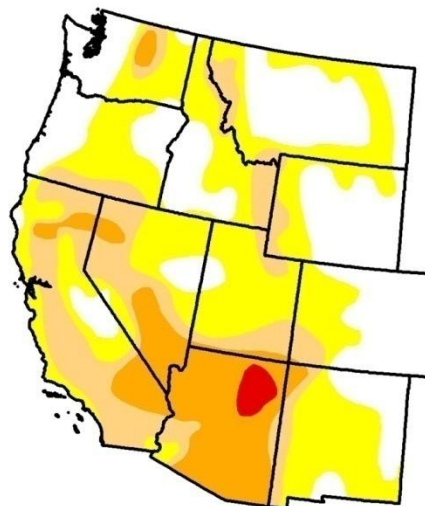
January 19, 2010

Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	32.5	67.5	31.8	13.6	0.9	0.0
Last Week (01/12/2010 map)	31.9	68.1	32.0	14.7	0.9	0.0
3 Months Ago (10/27/2009 map)	51.0	49.0	22.9	8.9	0.0	0.0
Start of Calendar Year (01/05/2010 map)	40.1	59.9	30.6	9.9	0.5	0.0
Start of Water Year (10/06/2009 map)	42.1	57.9	25.4	8.5	0.0	0.0
One Year Ago (01/20/2009 map)	43.2	56.8	28.2	9.8	1.7	0.0

Intensity:

D0 Abnormally Dry	D3 Drought - Extreme
D1 Drought - Moderate	D4 Drought - Exceptional
D2 Drought - Severe	



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, January 21, 2010

Author: D. Miskus, JAWF/CPC/NOAA

<http://drought.unl.edu/dm>

(Source: http://www.drought.unl.edu/dm/pdfs/west_dm.pdf)

Likelihood of Future Occurrences

Likely: According to the New Mexico Office of the State Engineer, droughts occur on average every 10 years within the state. Drought indices indicate sustained drought conditions throughout most of the state. Reservoir levels throughout New Mexico are still below average. Moreover, the final 2003 USDA state topsoil conditions report indicated that 94 percent of New Mexico topsoil was in the short to very short categories—a statistic graphically corroborated by recent dust storms originating in eastern New Mexico and affecting the Great Plains states.

On November 22, 2003, USDA declared all 33 counties in New Mexico as designated disaster areas, due to losses caused by drought. All counties, except LAC, were considered primary natural disaster areas for purposes of applying for financial assistance, based on the fact that LAC had not sustained sufficient production losses. This is not surprising since there is no commercial agriculture within LAC. According to the various drought predictive services, drought conditions continue to be extreme to exceptional statewide despite significant winter and spring precipitation.



Technical
Advisor
Program

Rock fall

Rock fall is the falling of a detached mass of rock from a cliff or down a very steep slope. Weathering and decomposition of geological materials produce conditions to support rock fall. Rock falls are caused by the loss of support from underneath through erosion or triggered by ice wedging, root growth, or ground shaking. Changes to an area or slope such as cutting and filling activities can also increase the risk of a rock fall. Rocks in a rock fall can be of any dimension, from the size of baseballs to houses. Rock fall occurs most frequently in mountains or other steep areas during the early spring when there is abundant moisture and repeated freezing and thawing. Rock falls are a serious geological hazard that can threaten human life, impact transportation corridors and communication systems, and result in other property damage.

Past Occurrences

According to the CPT, past rock falls in the LAC area have primarily occurred along State Highway 502, which is maintained by the State Department of Transportation, and in the area of the switchback located along State Route 4. Depending on the severity of an incident, blockages may last from hours to days.

There are a few other areas within the County that also experience some minor rock fall occurrences. The steep canyons that lace Los Alamos County can produce rock fall hazards, but only the occasional hiker may be at risk since the valley floors are largely undeveloped. One documented rock fall fatality is associated with the naming of the “Deadman Trail” in Los Alamos Canyon. This trail was named for a 1930’s homesteader who was killed by a rock fall while working on the trail.

(Source: www.losalamos.com/hiking/lahiking.asp)

Although, historically, there have been few reported injuries and little property damage associated with the rock fall hazard in LAC, the potential for damages in the future remains. In addition to potential damages to people and property, the greatest potential impact from rock falls is the impact to transportation routes. The CPT contacted the NM State Police to identify additional past occurrences, but no data was available.

Likelihood of Future Occurrences

Likely: Based on historical data, and given the sloped terrain along many of the roads within the Los Alamos area, rock fall hazards are likely to continue.

Earthquakes

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that we feel during an earthquake. New Mexico and Los Alamos County are subject to earthquakes.

Past Occurrences

Most of New Mexico's historical seismicity has been concentrated in the Rio Grande Valley, between Socorro and Albuquerque. About half of the earthquakes of Modified Mercalli (MM) intensity VI or greater that occurred in the State between 1868 and 1973 were centered in this region.

This earliest documented 6.0+ earthquake in New Mexico was in the Socorro area, in 1906, MM Intensity VII. Four rebuilt chimneys were shaken off the Socorro County Courthouse and two others were cracked severely. Plaster fell at the courthouse and a cornice on the northwest corner of the two-story adobe Masonic Temple was thrown onto its first floor. Several bricks fell from the front gable on one house. Plaster was shaken from walls in Santa Fe, about 200 kilometers from the epicenter. The earthquake was felt over most of New Mexico and in parts of Arizona and Texas. From this information, the Planning Team assumes that the earthquake could have been felt in Los Alamos.

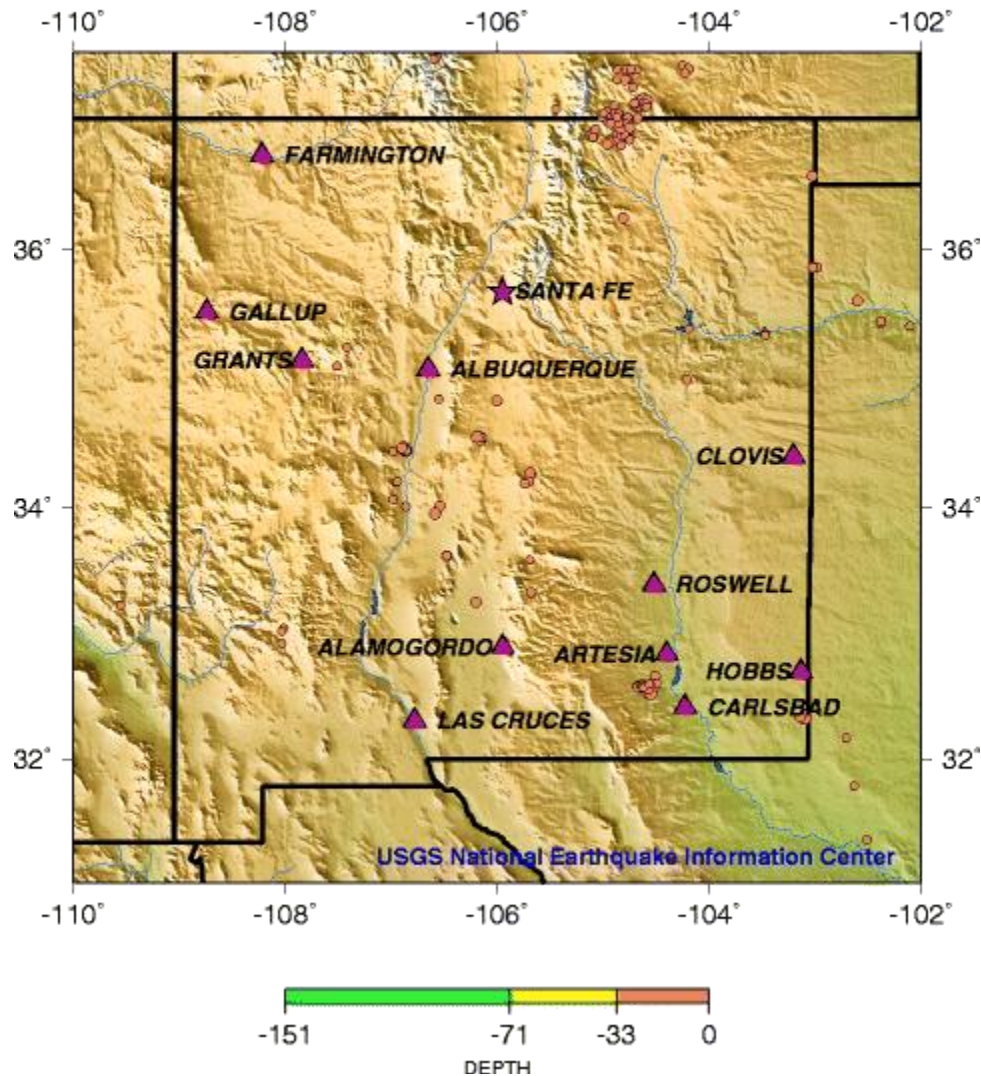
EARTHQUAKE INTENSITIES WITH APPROXIMATE CORRESPONDING MAGNITUDES

MERCALLI INTENSITY	DESCRIPTION	RICHTER MAGNITUDE
I	<i>INSTRUMENTAL</i> : detected only by seismographs	3.5
II	<i>FEEBLE</i> : noticed only by sensitive people	4.2
III	<i>SLIGHT</i> : like the vibrations due to a passing train; felt by people at rest, especially on upper floors	4.3
IV	<i>MODERATE</i> : felt by people while walking; rocking of loose objects, including standing houses	4.8
V	<i>RATHER STRONG</i> : felt generally; most sleepers are awakened and bells ring	4.9 - 5.4
VI	<i>STRONG</i> : trees sway and all suspended objects swing; damage by overturning and falling of loose objects	5.5 - 6.0
VII	<i>VERY STRONG</i> : general alarm; walls crack; plaster falls	6.1
VIII	<i>DESTRUCTIVE</i> : car drivers seriously disturbed; masonry fissured; chimneys fall; poorly constructed buildings damaged	6.2
IX	<i>RUINOUS</i> : some houses collapse where ground begins to crack, and pipes break open	6.9
X	<i>DISASTROUS</i> : ground cracks badly; many buildings destroyed and railway lines bent; landslides on steep slopes	7.0 - 7.3
XI	<i>VERY DISASTROUS</i> : few buildings remain standing; bridges destroyed; all services (railways, pipes and cables) out of action; great landslides and floods	7.4 - 8.1
XII	<i>CATASTROPHIC</i> : total destruction; objects thrown into air; ground rises and falls in waves	> 8.1

Source: Math/Science Nucleus.Org website



Seismicity of New Mexico 1990 - 2006



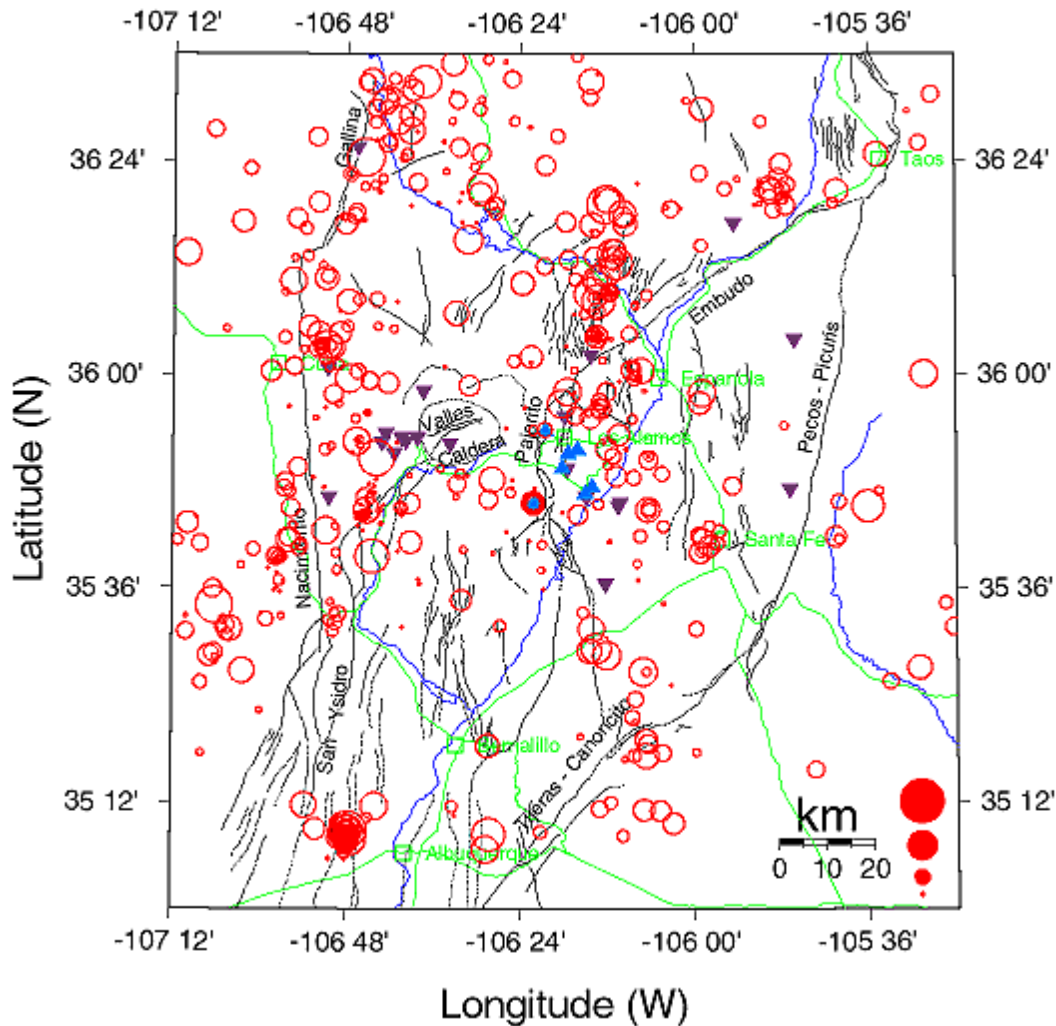
Los Alamos Seismic Network's (LASN's) Seismic Stations. From the first data recorded in the fall of 1973 to now, the Los Alamos Seismograph Network (LASN) has operated for almost 30 years. During that time, LASN data have been used to locate more than 2,500 earthquakes in north-central New Mexico.

The plot, shown on page 92, shows some the region of north-central New Mexico. The Jemez Mountains are in the middle, and within them, the Valles Caldera is the circular feature. The plot shows about 600 of the best-located earthquakes (red circles) in north-central New Mexico during the 25 years from 1973 through 1997. The size of each circle is proportional to the magnitude of the earthquakes (filled circles at bottom right show magnitudes from 0 to 3). Faults are drawn in black, rivers in blue, major roads in green.



Stations are shown as triangles, with those that operated from 1973 through 1984 as purple inverted triangles, those currently operating as blue upright triangles.

Earthquakes 1973-1997



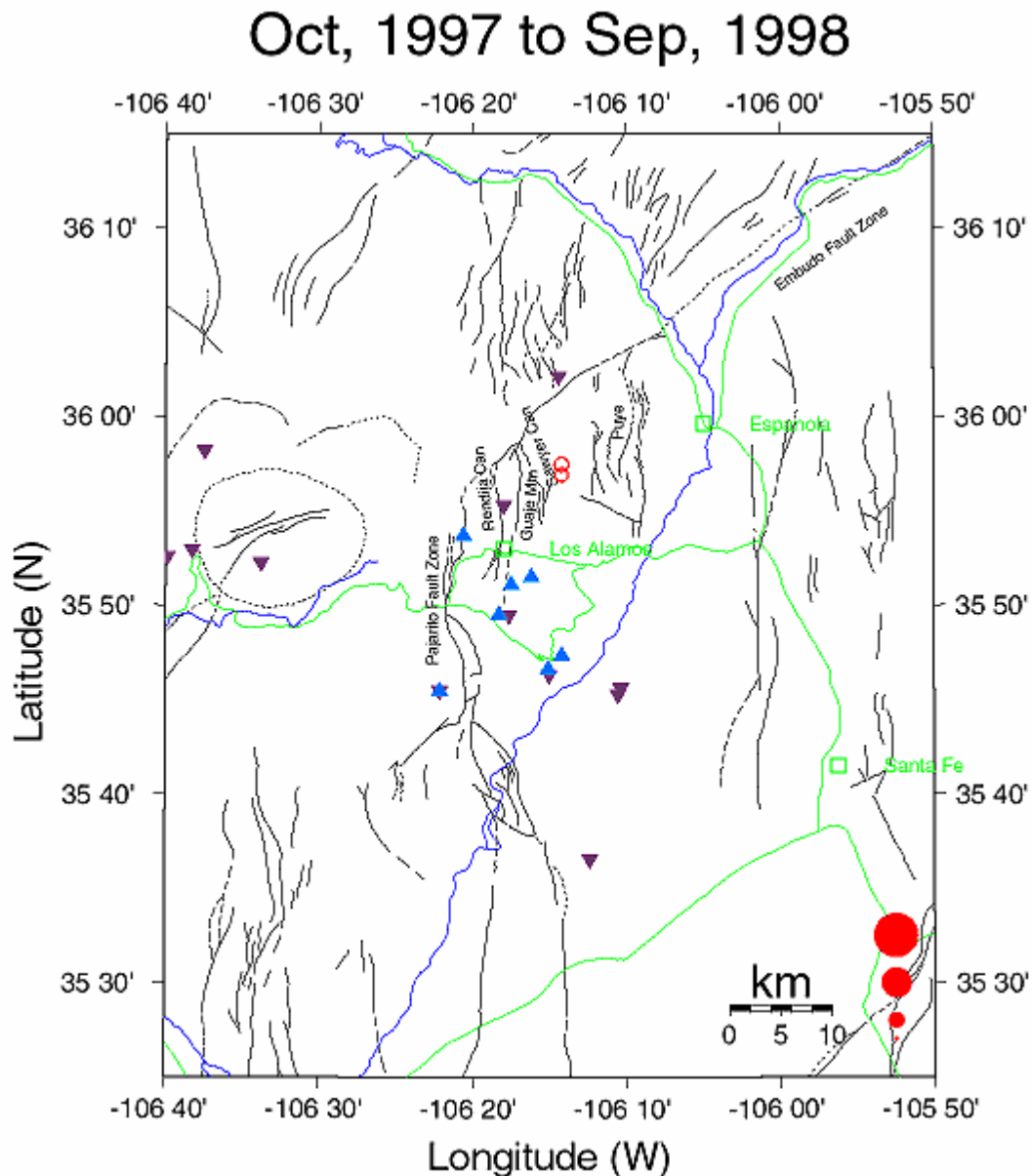
Total EQs plotted: 617

The network was installed to aid in seismic verification research as well as to monitor quakes for Los Alamos National Laboratory (LANL). LASN station data is the only instrumental seismic data available for earthquakes that occur in northern New Mexico. Currently, 7 stations are operated, all within or near LANL. More than 2,000 earthquakes were detected and located throughout northern New Mexico during the first 11 years of the network's operation (1973 to 1984). With a subsequent "down-sizing" of the network, about 1-2 nearby earthquakes a month are detected and located. Earthquakes are considered to be nearby if the time between their P (Primary) and S (Secondary) wave



arrivals is about 20 seconds or less. That corresponds roughly to about 150-160 km distance from the network.

In the 12 months, October 1997 through September 1998, a total of 27 earthquakes were located. Many of these were part of the Willard, NM swarm which started in late December 1997 and continued into January, 1998. The Willard swarm earthquakes are located about 30 km south of the southern edge of the north-central New Mexico seismicity plot. Plot features are similar to those described for the previous plot.

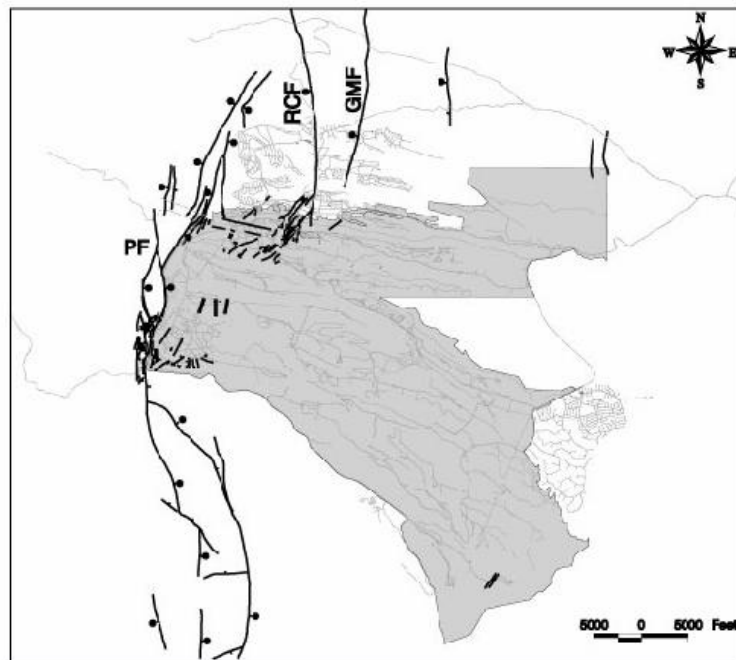


Los Alamos lies near several major boundary faults of the Rio Grande Rift in north central New Mexico. The margin of the Rio Grande Rift in the Los Alamos area is locally defined by the Pajarito fault system. The Pajarito Fault extends some 50 kilometers, oriented north-



south from near Bland Canyon nearly to Santa Clara Canyon. Two other faults in the area include the Guaje Mountain Fault and the Rendija Canyon that transect the plateau. LANL data suggests that a magnitude seven earthquake occurred along the Guaje Mountain Fault between 4,000 and 6,000 years ago. A quake of similar magnitude apparently occurred on the Rendija Canyon Fault either 8,000 or 22,000 years ago (a discrepancy due to different age results of two different materials: charcoal deposits, which yielded the more recent date, and soil). The magnitude of the earthquakes along the Guaje Mountain Fault and Rendija Canyon Fault were based on documented displacements of one and a half to two meters. However, according to a researcher at LANL, this information is being updated. There is new evidence of three surface rupturing earthquakes (i.e., magnitude 6 or larger and probably closer to magnitude 7) in the last 10,000 years. The most recent of these earthquakes was about 2,000 years ago.

Map of the Pajarito Fault System in the Los Alamos Area



PF= Pajarito Fault

RCF=Rendija Canyon Fault

GMF=Guaje Mountain Fault

Gray shaded area is Los Alamos National Laboratory.

Some areas of the Pajarito fault system have not yet been mapped.

This map reflects mapping through the Spring of 2000.

(Source: <http://www-geo.lanl.gov/JAMIE/faultmaps.html>)

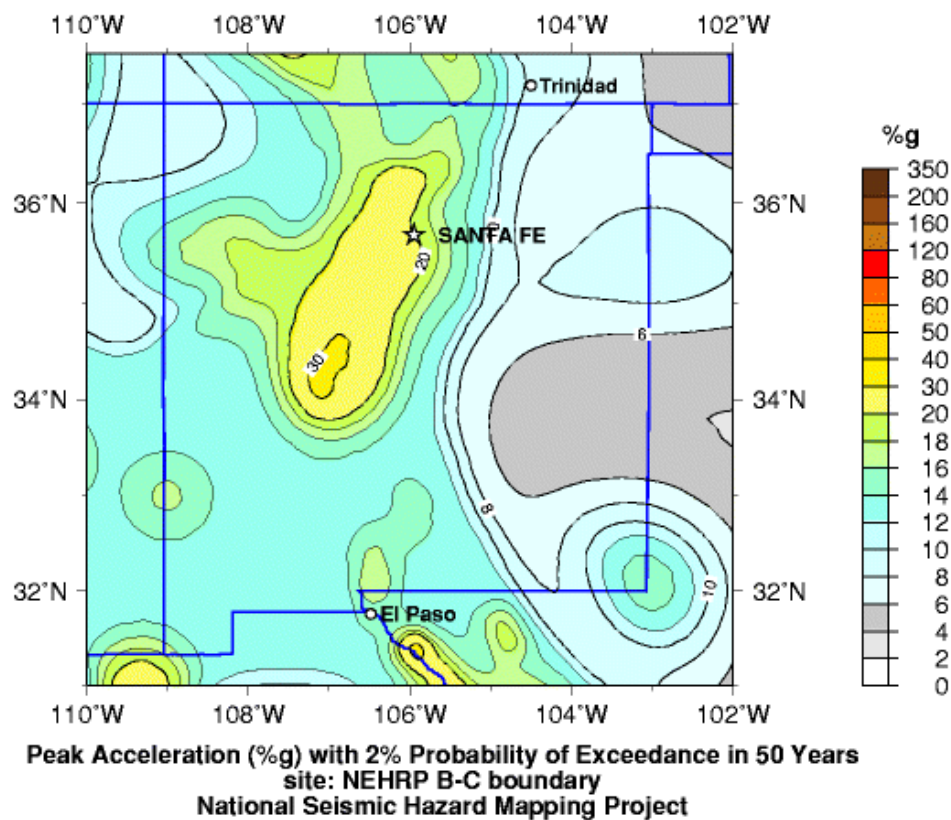
Since the establishment of LANL during the early 1940's, there have been seven earthquakes felt by the residents of LAC. The largest of these were a magnitude 4 (Richter) in 1952 and a magnitude 3.3 in 1971, both reported as Modified Mercalli Intensities of V in Los Alamos. More recently, in 1991 and 1998, LAC experienced very small magnitude earthquakes ($M < 2$) with unusually high Modified Mercalli Intensities up to V, indicating significant felt effects. This is due to the unusually shallow nature of these earthquakes.

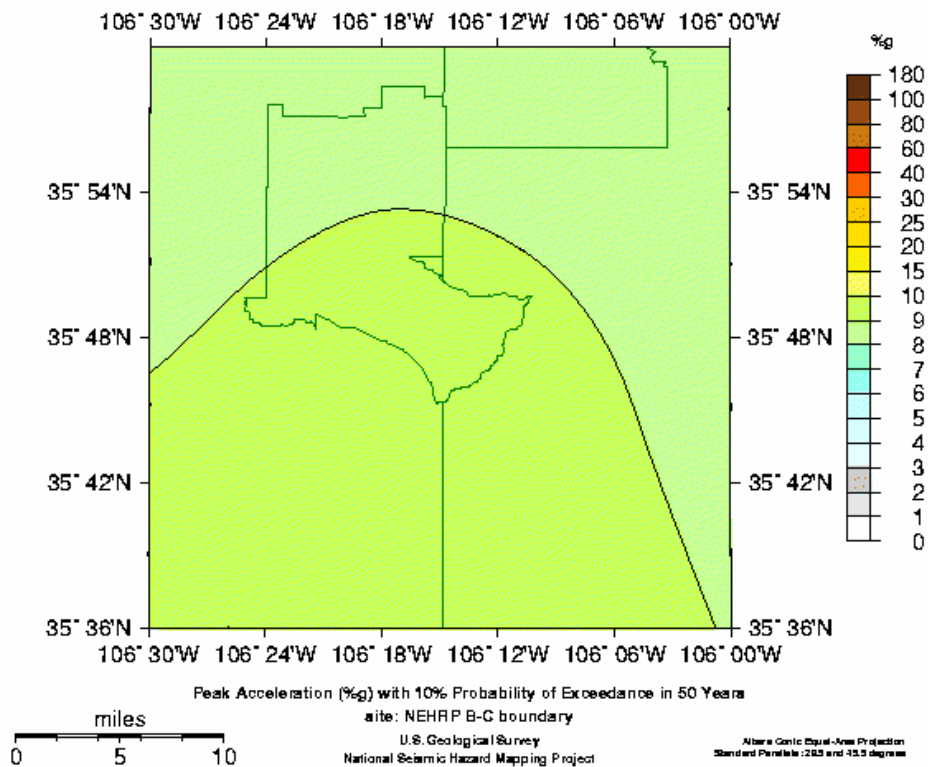


Two of these earthquakes happened on the same day in 1991; the other earthquake occurred in 1998. The areas where residents felt the quakes are built on a thick package of old, alluvial material deposited atop the Bandelier tuff or on artificial fill. Residences built directly on tuff were far less likely to feel the small quakes.

Likelihood of Future Occurrences

Magnitude 6.0 earthquake - *Unlikely*: Studies conducted by the New Mexico Institute of Mining and Technology, with support from the state, suggest that an earthquake of magnitude of 6.0 on the Richter scale has a probability of occurrence somewhere in this state once every 150 years. This prediction is based on extrapolated data since the only known documentation of a magnitude 6.0 + earthquake was in the early 1900s, prior to instrumentation for the measurement of earthquake epicenter magnitudes. From various other sources, the following maps provide information on the potential seismic hazard in the area.





Los Alamos County

From these data we can infer that the likelihood of an earthquake affecting LAC is moderate. In Los Alamos County, the larger an earthquake, the more severe the impacts will be. Small earthquakes will continue to occur frequently, though most will be undetectable to people. Moderate earthquakes will occur less frequently --- but could be reasonably expected to occur within anyone's lifetime. The Planning Team can only infer (and agree with NM Tech) that a significant earthquake ---- one 6.0 or greater on the Richter scale, may occur in the area at least once every 150 years.

Volcano

A volcano is a mountain formed by the eruption of subsurface material including lava, rock fragments, ash, and gases, onto the earth's surface. Volcanoes produce a wide variety of hazards that can damage and destroy property and cause injury and death to people caught in its path. Hazards include those related to volcanic activities, such as: eruption columns and clouds, volcanic gases, lava/pyroclastic flows, volcanic landslides and mudflows or debris flows (called lahars). Based on the evidence of past activity, volcanoes can be considered "active", "dormant", or "extinct". "Active" volcanoes usually have evidence of eruption during historic times. Volcanoes have a wide degree of variability in their eruptions, from mild lava flows to large explosions that eject tons of material and ash into the air. The degree of volcanic hazard depends largely on if the volcano has a reasonable probability of erupting, the nature of the eruption, and the associated hazards that may be triggered.



Past Occurrences

The Jemez Mountains, located to the northwest of LAC, are a volcanic field that overlies the west edge of the Rio Grande rift. This volcanic field is best known for the Valles Caldera. A Caldera is formed when huge amounts of magma are erupted out of sub-surface magma chambers. The removal of all this magma leaves a void below the surface and the top collapses in to form the caldera. Subsequent eruptions usually fill them in partially so that the jumbled debris is buried. At 15 miles in diameter, the Valles Caldera is believed to have been formed during two explosive events, 1.6 and 1.2 million years ago, when the volcanic pile collapsed in response to this eruption of ash and rock from the magma chamber. During these events over 90 cubic miles of ash/rock spewed out, forming the Bandelier tuff. Subsequent resurgence of magma formed domes along the caldera ring fracture, including Redondo Peak, which is over 3000 feet above the caldera floor. The geothermal and hot springs systems in the area are caused by flow of groundwater through the caldera. The water flows near the top of a subsurface body of igneous rock that still may be partially molten. Some of the water rises to the surface to supply fumaroles and hot springs. Geothermal activity continues.

Having been studied since the 1920's to learn about the fundamental processes of magmatism, hydrothermal systems and ore deposition, the Valles Caldera is one of the most well known resurgent calderas in the United States. Researchers from LANL estimate that the most recent volcanic activity ended 50,000 years ago.



Mesas and Valles Caldera This view is looking west across the dissected Bandelier Tuff of the Pajarito Plateau. The view looks across the lava domes and composite cones of the pre-2-million-year Jemez volcanic field (middle) into the Valles caldera. The grassy area, located at the center top, is the southeast quarter of the caldera. The Los Alamos town site is in the foreground.



On the Ground

Looking west towards the LANL, the skyline is the topographic rim of the Valles Caldera. The cliffs on the right are Bandelier Tuff. The layers represent the two major eruptions of the tuff and different cooling rates in each tuff deposit. The center of an ash-flow tuff sheet cools slower than the top and bottom, so its fragments of volcanic glass become welded to each other. This rock is massive and strong, unlike the unwelded ash-flows and air-fall tuffs, which can commonly be crumbled by hand. So, the center of an ash-flow tuff holds up cliff tops, and the top and bottom tend to form slopes.



Bandelier Tuff, Jemez Canyon

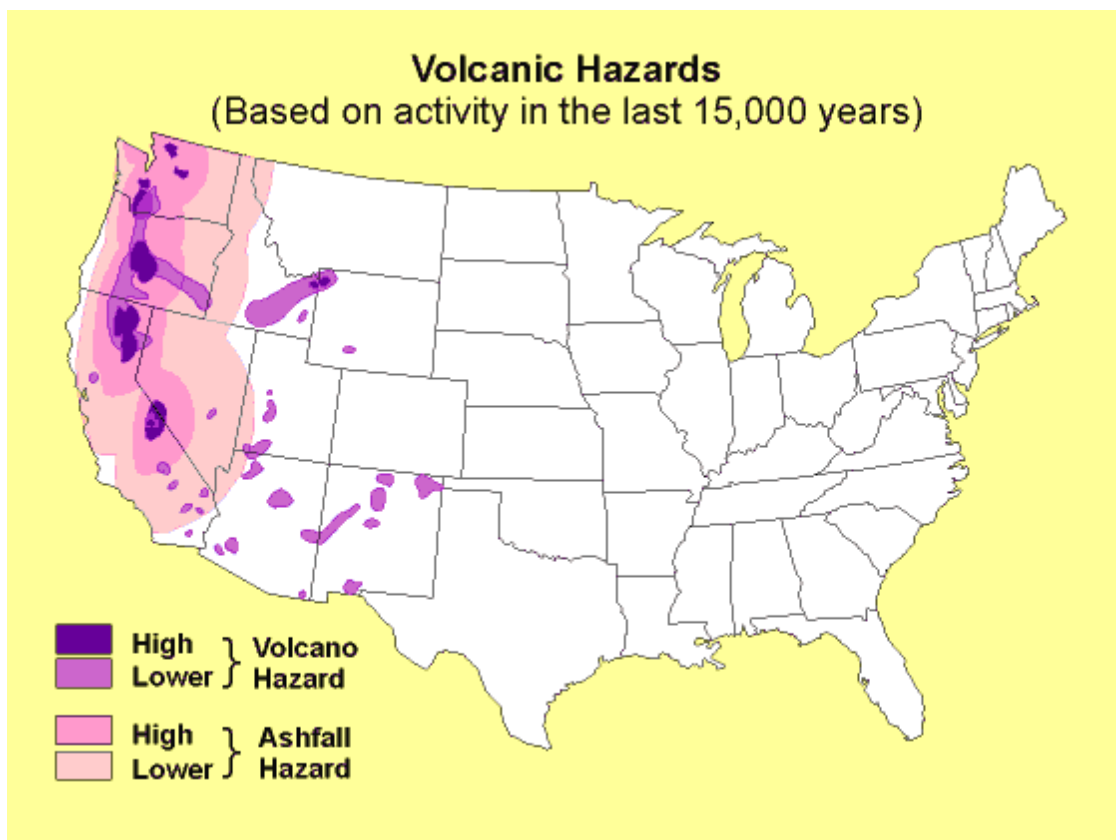
The pale rock here is Bandelier tuff, erupted from the Valles Caldera. The cliff-forming layers are the centers of ash-flows and the slopes are weaker rock from the tops and bottoms. Beneath the Bandelier tuff are red shales and sandstones of the Permian aged Abo formation, and brown limestone of Pennsylvanian age. Some of the white patches on the hillside are hot-spring deposits – with heat courtesy of the Valles volcano. This scene is near Jemez Pueblo and the Soda Dam hot springs.



Likelihood of Future Occurrences

Unlikely: Based on historic data (most recent volcanic activity ended 50,000 years ago), it is highly unlikely that volcanic activity will resume any time soon.

Several Studies, including those conducted by LANL and other studies conducted in conjunction with the New Mexico Bureau of Mines & Mineral Resources, indicate that based on the long history of the Jemez volcanic field and past cycles in activity, Valles Caldera should be considered a dormant volcano that will probably erupt again. Further, should an eruption occur based on past record, any future eruption would probably be explosive. When or if the next cycle of volcanic activity could begin is unknown. Renewed activity would likely be preceded with increased seismic activity that would provide some warning of the potential hazard. A map, on page 100, depicts volcanic hazards based on activity in the last 15,000 years.



District Analysis (Zone Analysis)

Introduction

This document provides an evaluation of the current risks and hazards of each of the response districts (planning zones) that are located in Los Alamos County. The Risk and Hazards Analysis is based on the LAFD's fire service delivery concerns in each of the response districts (planning zones) and directs response capabilities in these areas. This analysis allows the Department to maintain the objective of reducing the risks, forecast future needs, and to enhance response capabilities.

As this analysis was being developed, the current Standard of Cover and Strategic Plan was carefully considered to ensure that this analysis would be consistent with and supportive of the projected needs and planned response in those documents.

It is our goal to create a department which is receptive to change and always seeking to improve the services it delivers. As such, the vision and mission of the Department emphasize service to community, and the goals and objectives provide direction for the Department as it strives to accomplish this endeavor. The development and use of a Risk and Hazards Analysis allows our members to better understand, be a part of and support the ongoing direction of the Department.

Since planning is a continuous process, this plan will be reviewed and updated on an annual basis during the review of the Standard of Cover to measure our progress and to determine if modifications are necessary. This plan, like our other plans, has been carefully developed to be dynamic which allows us the ability to update, modify or replace the section/sections that no longer apply. Thus the plan will adapt to the needs of the residents and the Department in general.

The Process

The Department employed a streamlined yet comprehensive process to develop this analysis. Emphasis was placed on seeking that input throughout the organization.

To collect this information, data was gathered during pre-incident planning, fire inspections, public education events, plan reviews, and community development meetings. Members were involved in the review and development of the top hazardous lists for each planning zone. All moderate, high and very high risks have been preplanned and inspected in all response districts.

An FCD defines and documents the Risk and Hazards Analysis process.

Special Risks

LAFD defines certain categories of occupancies as special risks; these include schools, churches, and day-cares. Although for the most part the schools and day-cares are not occupied in the evening, and the churches are not occupied during the weekday, members need to be aware of the potential problems which may occur if an emergency exists at one of these locations.

Schools

The student population is the primary concern during the school day. Are the student and faculty able to recognize and respond properly to an event which requires protective actions, will they shelter in place or will an evacuation happen in a timely manner and will the action be successful? Schools are inspected annually by FLSM staff.

School	Address	District
Los Alamos High School	1300 Diamond Drive	1
Los Alamos Middle School	1 Hawk Drive	4
Aspen Elementary	2182 33 rd . Street	4
Mountain Elementary	2280 North Road	4
Barranca Elementary	57 Loma Del Escolar	4
Pinon Elementary	90 Grand Canyon Drive	3
Chamisa Elementary	301 Meadow Lane	3
University of NM-Los Alamos	4000 University Drive	1

Churches

Our primary concern for life safety is on the days of worship; however, many churches do use their facilities for evening activities such as bible study or during the summer for Bible Schools. Mainly are the people who are attending services familiar with the exits and can the church be successfully evacuated in a safe and timely manner?

Church	Address	District
White Rock Baptist	80 State Road 4	3
United Church of Los Alamos	2525 Canyon Road	6
First United Methodist	715 Diamond Drive	1
First Baptist	2200 Diamond Drive	4
Crossroads Bible	97 East Road	6
Church of Christ	2323 Diamond Drive	4
Trinity on the Hill	3900 Diamond Drive	4
Christian Church	92 East Road	6
Unitarian Church	1738 N. Sage Street	6
Church of the Nazarene	15 Grand Canyon	3
Bryce Avenue Presbyterian	333 Bryce Ave.	3
White Rock Presbyterian	310 Rover Blvd.	3
White Rock United Methodist	580 Meadow Lane	3
St. Dimitri Orthodox Church	2270 39 th Street	4
Pajarito Church of Christ	135 Longview Drive	3
Messiah Evangelical Lutheran	172 Meadow Lane	3
Immaculate Heart of Mary Catholic	3700 Canyon Road	6
Church of Latter Day Saints	1967 18 th Street	6
Church of Latter Day Saints	366 Grand Canyon	3
Redeemer Lutheran Church	134 State Road 4	3
Bethlehem Evangelical Church	2390 North Road	4
Church of Latter Day Saints	240 Kimberly Lane	3
Immaculate Heart of Mary Catholic	196 Meadow Lane	3
Los Alamos Jewish Center	2400 Canyon Road	6
New Beginnings Fellowship	112 East Road	6



Christian Science Society	1725 17 th Street	6
Grace Vineyard Christian	991 Central Ave.	6
Calvary Chapel	580 N. Mesa Road	4
Kingdom Hall-Jehovah's Witnesses	4542 Yucca St.	4
Masonic Temple	15 th and Canyon	6
<u>Baha'i Faith</u>	2290 39 th Street Apt. A	4

Day-Care Facilities

Our primary concern and obvious issue is the capability for the teachers/care-giver to provide for the safe and timely response to an emergency within the facility. The Department is very involved with the day-care facilities, and the practicing of fire safety. We will continue to evaluate and improve the programs.

Daycare	Address	District
Canyoncito Montessori School	2525 Canyon Road	6
Children's Montessori School	1060 Nugget	6
Ponderosa Montessori School	304 Rover Blvd.	3
Quemazon Montessori School	4600 Esperanza Drive	4
Little Forest Play School	3880 Villa Street	4
Bilingual Montessori School	115 Longview Drive	3
Ark Child Development Center	715 Diamond Drive	1
Horizons Center	580 Meadow Lane	3
Sage Cottage Montessori School	142 Meadow Lane	3

Nursing Home/Assisted Living

Our primary concern is the inability for non-ambulatory patients who reside in nursing home/assisted living center to self-evacuate. The Department conducts pre-incident plans and fire and live safety inspections annually to ensure our personnel have a working knowledge of the special needs associated with these facilities.

Nursing Home/Assisted Living	Address	District
Sombrillo	1010 Sombrillo Ct.	6
Aspen Ridge	1011 Sombrillo Ct.	6

Senior Centers

The Senior Centers we have identified pose special risks in the fact that not all attendees are fully ambulatory and may not be able to self-extricate in the event of a fire. The Department conducts pre-incident plans and fire and live safety inspections annually to ensure personnel have a good understanding of the facility.

Senior Centers	Address	District
Betty Ehart	1000 Oppenheimer	6
White Rock Senior Center	137 Longview Drive	3

Swimming Pools

The swimming pools pose multi-faceted hazards and concerns for the LAFD. All, but the aquatic center, are outdoor pools thus offer a seasonal special hazard. Due to swimming pool chemicals, there may be a hazardous materials component that is identified through our PIP's. The aquatic center is a year round operation with annual shutdowns for cleaning



of the pool. The aquatic center also has numerous classrooms, meeting rooms and offices that are routinely used for events. The Department conducts pre-incident plans and fire and life safety inspections annually to ensure personnel have a working knowledge of the facility.

Swimming Pools	Address	District
Pinon Park Pool	104 Bryce Ave.	3
Canyon Vista	361 Aragon Ave.	3
East Park	111 East Road	6
Los Alamos County Aquatic Center	2760 Canyon Road	6
Golf Course	4250 Diamond Drive	4

Medical Facilities

The LAFD has identified the medical facilities as a unique and special hazard. As in most medical facilities, there are numerous patients in various stages of mobility. Some may not be ambulatory without specialized treatment and assistance. This poses several issues and has been identified through pre-incident plans. Fire and life safety inspections are conducted annually to ensure personnel have a good working knowledge of the facility.

Medical Facilities	Address	District
Los Alamos Medical Center	3917 West Road	1
Los Alamos Urgent Care	1460 Trinity Drive	6
Lahiri & Mesibov	118 Central Park Square	6
Occupational Medicine	TA 03 SM 1411	1
Children's Clinic of White Rock	35C Rover Blvd.	3
Endoscopy Center	1911 Central Park Square	6

Recreation Areas

The recreation areas are identified as special and unique hazards as the majority of these are seasonal in nature. The Los Alamos School of Gymnastics and YMCA are indoor facilities and thus are open year around. Brewer Arena is an outdoor equestrian arena that is operational year round. Overlook Park is a series of softball and soccer fields that are seasonal in use. Bomber Field is the high school baseball field and seasonal in use. Sullivan Field is the LA high school's track/field and football field. The Pajarito Ski Hill and the ice rink are both open to the public year round.

Recreation Areas	Address	District
Bomber Field	North Mesa Road	4
Overlook Park	Overlook Road	3
Ice Rink	4475 West Road	1
Pajarito Ski Hill	397 Camp May Road	1
Brewer Arena	North Mesa Road	4
Sullivan Field	Diamond Drive	1
LA School of Gymnastics	555 North Mesa Road	4
YMCA	1450 Iris Street	6



Bed and Breakfast

The LAFD identified the local Bed and Breakfasts in the community as they pose a unique hazard. These are typically homes that will rent out rooms. The Department conducts pre-incident plans and fire and live safety inspections annually to ensure personnel have a working knowledge of the facilities.

Bed and Breakfast	Address	District
Adobe Pines B&B	2101 Loma Linda Dr.	4
Back Porch B&B	13 Karen Circle	3
Canyon B&B	80 Canyon Road	6
A Bandelier B&B	135 La Senda	3
Pueblo Canyon Inn & Gallery	199 San Ildefonso Road	4
Margo's Bavarian B&B	104 Monte Rey Drive	3
North Road B&B	2127 North Road	4

Hotels/Motels

The LAFD identified Hotels and Motels in the community as they pose a unique hazard as these are typically filled to capacity and tenants don't always pay attention to evacuation routes from their rooms. The Department conducts pre-incident plans and fire and live safety inspections annually to ensure personnel have working knowledge of the facilities.

Hotels/Motels	Address	District
Hilltop House	400 Trinity Drive	6
Holiday Inn Express	5 Camino Entrada	6
Comfort Inn	2455 Trinity	6
Hampton Inn	124 Highway 4	3

Apartments and Condominiums

The LAFD identified apartments and condominiums in the community as they pose a unique hazard and are typically fully occupied. The Department conducts pre-incident plans and fire and live safety inspections annually to ensure personnel have a good working knowledge of the facility.

Apartments and Condominiums	Address	District
Caballo Peak Apartments	195 East Road	6
Canyon Village Apartments	Canyonview Drive	6
Casa de Luz Apartments	799 6 th Street	6
Gold Street Apartments	3807 Gold Street	1
Chapel Apartments	1926 24 th Street	6
Iris Street Apartments	1300 Iris Street	6
Los Cerros Apartments	3000 Trinity Drive	6
Las Ventanas Townhomes	3200 Canyon Road	6
Mesa Del Norte Apartments	650 San Ildefonso Dr.	4
Mountain Vista Apartments	600 San Ildefonso Dr.	4
UNM/9 th Street Apartments	939 9 th Street	6
Timber Ridge Condominiums	3055 Timber Ridge	6
Central Park Condominiums	802 9 th Street	6
Ridge Park Condominiums	505 Oppenheimer Dr.	6
Loma Vista Condominiums	Loma Vista Drive	6



Los Alamos National Laboratories

The LAFD recognizes the LANL as a special and unique hazard. Numerous sites and buildings are located throughout the county. The LAFD conducts pre-incident plans and fire and life safety inspections annually to ensure personnel have a good understanding of the facilities.

Los Alamos National Labs	Address	District
The Los Alamos National Laboratory encompasses 40 + square miles and LANL proper is within the following Fire response districts:		
	District 3	
	District 5	
	District 6	

Wildland, Trails, Canyons

The LAFD recognizes and identifies the wildland, trails and canyons that encompass Los Alamos as its own unique hazard. These areas, although remote, are accessible from many of the populated areas in town. Access to these areas is through trailheads and forest access roads. This poses unique rescue, wildland-urban interface, and EMS issues for the department.

Wildland, Trails, Canyons	Districts
The Wildland, trails and canyons encompass numerous square miles and acreage and lie within the following Fire response districts:	
	District 1 (Camp May, reservoir and canyon access)
	District 3 (Red Dot, Blue Dot Tail Heads)
	District 4 (Mitchell Trailhead, Guaje Pines, numerous forest rd. access)
	District 5 (Numerous forest rd. access)
	District 6 (Access to canyons)

State Highways

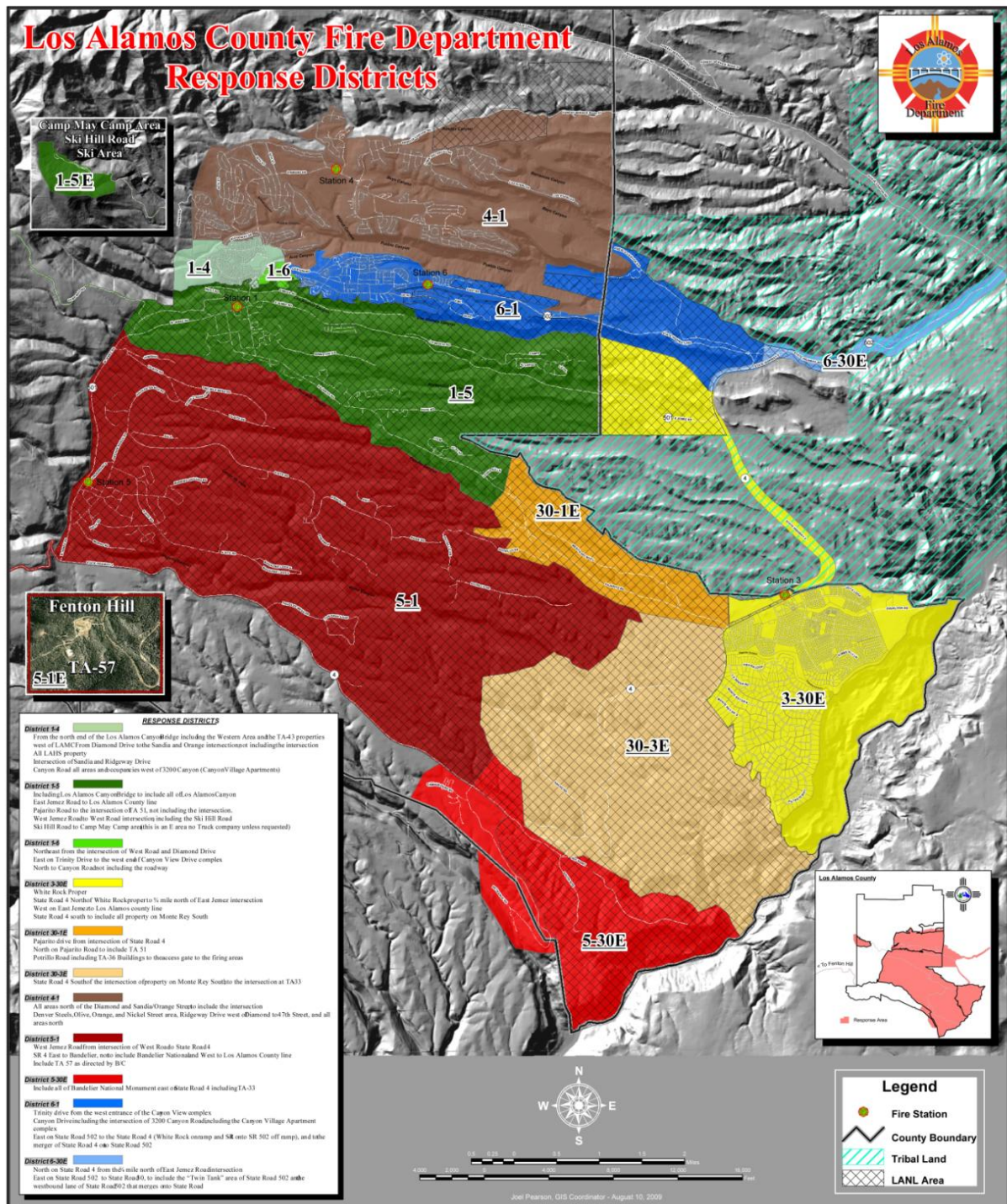
The LAFD recognizes the unique hazards of the State Roads that traverse the county. Incidents that can occur are typically EMS in nature. With a rescue component, however, there is the potential for fire and hazardous materials incidents.

State Highways	Districts Affected
State Road 501	Districts 1, 3 and 6
State Road 502	Districts 1, 3 and 5
State Road 4	Districts 3, 5 and 6
East Jemez	Districts 1 and 3



Fire Due Areas of Response by Response Districts

LAFD districts are delineated by FCD 900 article 3 Response and Alarm Assignments. These response districts are also displayed below in LAFD's Response District's map.



State Road 502**Description:**

NM502 is the primary access to Los Alamos and also serves as the main route for approximately 9000 daily commuters during the work week. The NM502 corridor is approximately 18 miles. NM502 runs through east through west through county and the local designation changes to East Road and then Trinity. This assessment ends where East Road begins.

Routine Fire Risk: Vehicle fire.

Worst Fire Risk: Weather driven wildland fire.

Routine Non-Fire Risk: EMS incident, in particular vehicle accidents.

Worst Non-Fire Risk: The multiple victim vehicle accident and the possibility of high speed crashes, as well as Hazardous Materials incidents.

State Road 4

Description: NM4 is a minor arterial highway that runs north and south through this stretch of the County. It is a three lane road with no shoulders from the intersection of East Jemez Road, and continues until it merges with NM502 at a point that is locally known as the "Y".

Routine Fire Risk: Vehicle fire

Worst Fire Risk: Weather driven wildland fire.

Routine Non-Fire Risk: EMS incident, in particular vehicle accidents.

Worst Non-Fire Risk: The multiple victim vehicle accident and the possibility of high speed crashes, as well as hazardous materials incidents on the highway.

District 1-4

Description: Consists of the territory between the north end of the Los Alamos Bridge including the Western Area and the TA-43 properties west of the Los Alamos Medical Center and Diamond Drive to the Sandia and Orange intersection, not including the intersection. All Los Alamos High School property, the intersection of Sandia and 47th Street, Canyon Road all areas and occupancies west of 3200 Canyon (Canyon Village Apartments). This area is a mix of a significant amount of single-family dwellings, apartment buildings, several churches, the high school, the university, hospital and a strip mall. The majority of this district is single family housing.

Routine Fire Risk: Is primarily characterized by residential single-family dwellings.

Worst Fire Risk: The district contains several Very High risks in it. They include the Los Alamos Medical Center, Los Alamos High School, University of New Mexico at Los Alamos, and the First United Methodist Church. These complexes would require a lot of resources and evacuation would be difficult.

Routine Non-Fire Risk: EMS incident.

Worst Non-Fire Risk: The possibility of a major incident at the Los Alamos High School.

Rescue Risk: High or low angle rope rescue in canyon areas.



District 1-5

Description: Encompasses the area from the north end of the Los Alamos Bridge to include all of the Los Alamos Canyon, East Jemez Road to the county line, Pajarito Road to the intersection of TA 51, West Jemez Road to the intersection of West Road, and the Camp May Road to include the ski hill. Most of the area is owned and operated by the Los Alamos National Laboratories (LANL) and its primary usage is business and industrial. The only housing in this district is a mobile home park.

Routine Fire Risk: LANL business occupancies.

Worst Fire Risk: Contains 61 High Risk hazards all located on LANL property and any of their loss would be potentially disastrous. They are inspected and preplanned yearly. For security reasons, this document will not identify which buildings are the worst fire risks though a risk assessment has occurred. All of the high risk buildings are protected by automatic sprinklers and fire alarm systems.

Routine Non-Fire Risk: EMS incidents.

Worst Non-Fire Risk: The possibility of a hazardous material incident at one of high risk LANL facilities.

District 1-6

Description: Covers the Northeast from the intersection of West Road and Diamond Drive to the intersection of Diamond and Trinity Drive to the west end of Canyon View Drive and North to Canyon Road, not including the roadway. District 1-6 contains 6 very high risk hazards. They include two churches, three apartment structures, and a LANL research laboratory. This district is mainly made up of commercial and housing areas.

Routine Fire Risk: Single family dwellings

Worst Fire Risk: Working Structure fire in a large apartment complex.

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: The possibility of a hazardous material incident at the high risk LANL facility.

Rescue: High or low angle rescue in canyon areas.

District 3-30E

Description: Encompasses all of White Rock proper and Pajartito Acres, includes State Road 4 north of White Rock Proper from $\frac{3}{4}$ mile north of the East Jemez intersection to $\frac{1}{4}$ miles south of Monte Rey South. This district contains 21 occupancies classified as very high. They include 9 churches, 5 day-cares, 3 gas stations/convenience stores, 2 elementary schools, 1 hotel and 1 grocery store. The majority of this district is single family housing.

Routine Fire Risk: Single family dwelling

Worst Fire Risk: A large fire at one of the elementary schools

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: Hazardous materials incident

Rescue: High angle rescue



District 30-1E

Description: Pajarito Drive from the intersection of State Road 4, north to include TA 51, Potrillo Road including TA 36 buildings to the access gate of the firing ranges. This district contains 8 LANL facilities that have been identified as very high risk. There is no housing in this district.

Routine Fire Risk: LANL business occupancy

Worst Fire Risk: Large fire at LANL in TA 54

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: Large hazardous materials at LANL TA 54

Rescue: Confined space at LANL

District 30-3E

Description: From State Road 4 South of the intersection ¼ mile south Monte Rey South, to the intersection at TA-33. This is a very rural area made up of some LANL facilities but mostly wildland. There is no housing in this district.

Routine Fire Risk: Small wildland fire

Worst Fire Risk: Weather driven wildland fire.

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: Hazardous materials incident

Rescue: Rescue in wildland area.

District 4-1

Description: All areas north of the Diamond and Sandia/Orange Street; to include the intersection, Denver Steels, Olive, Orange, and Nickel Street area, Ridgeway Drive west of Diamond to 47th Street, and all areas north. This district contains 7 occupancies classified as very high risk, which are 4 schools and 3 churches. The majority of this district is single family housing.

Routine Fire Risk: Single family dwelling fire

Worst Fire Risk: Routine weather driven wildland fire

Non-Fire Risk: EMS incidents.

Worst Non-Fire Risk: The possibility of a major incident at one of the 4 schools in the district.

Rescue: Technical rescue off one of the canyons

District 5-1

Description: From the West Jemez Road from intersection of West Road to State Road 4, SR 4 East to Bandelier, not to include Bandelier National Monument and West to county line, and as directed by B/C 1 to include TA 57. This area is owned and operated by LANL. It is a rural area, however, the primary LANL usage is business and industrial. There are 32 very high risk occupancies in the district, all on LANL property. There are no residences in this district.

Routine Fire Risk: Small wildland fire



Worst Fire Risk: Weather driven wildland fire.

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: Hazardous materials incident at LANL

Rescue: Confined space rescue at LANL

District 5-30E

Description: Includes all of Bandelier National Monument east on State Road 4 including TA-33. This is a very rural area with limited housing in the Bandelier National Monument and several LANL occupancies. There are no occupancies designated as very high risk in the district.

Routine Fire Risk: Small wildland fire

Worst Fire Risk: Weather driven wildland fire

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: Hazardous materials incident

Rescue: Rescue in Bandelier National Park

District 6-1

Description: Encompasses Trinity Drive from the west entrance of the Canyon View complex; Canyon Drive, including the intersection of 3200 Canyon Road, including the Canyon Village Apartment complex, East on State Road 502 to the State Road 4 (White Rock exit and SR-4 onto SR 502 off ramp), and to the merger of State Road 4 onto State Road 502. This district contains 41 occupancies that have been categorized at high risk. The district is made up of mostly residential and commercial occupancies.

Routine Fire Risk: Residential fire

Worst Fire Risk: A working fire at the Sombrillo Nursing home

Routine Non-Fire Risk: EMS incident

Worst Non-Fire Risk: Hazardous materials incident

Rescue: High angle rescue

District 6-30

Description: North on State Road 4 from the $\frac{3}{4}$ mile north of East Jemez Road intersection, East on State Road 502 to State Road 30, to include the "Twin Tank" area of State Road 502 and the westbound lane of State Road 502 that merges onto State Road 4. There are no structures in this district.

Routine Fire Risk: Has no structures, routine fire risk would be auto fire.

Worst Fire Risk: Large motor vehicle accident with fire during rush hour

Routine Non-Fire Risk: EMS incident, in particular vehicle accidents.

Worst Non-Fire Risk: The multiple victim vehicle accident and the possibility of high speed crashes, as well as, a hazardous materials incident.

Rescue: Extrication on a motor vehicle



Fire Risk Assessment

The following Risk Matrix helps identify the elements that must be considered when assessing the community's risk. Each of the four categories represents a specific level of risk based on the probability of that risk occurring and ties the probability to the consequences that will be experienced if the risk occurs. Each risk that a community faces can be identified and categorized using this measurement of probability/consequences. As the level of risk increases, a different commitment of fire resources is needed to keep the risk from escalating.

D.1 Fire Risk Matrix

Very High Vital to LANL mission Nuclear Facilities Extreme Potential for Loss of Life Extreme Potential for Radiation or Chemical Contamination Extreme Potential for Health Hazard to Fire Fighting Personnel Extreme Potential for Environmental Damage Churches Schools Hospital Nursing Homes High Occupancy Load	High Potential Hazard to Life Potential Health Hazard to Firefighting Personnel Potential Environmental Damage Large Number of Occupants Large Potential for Dollar Loss Large Facilities Mercantile Business Health Care
Moderate Moderate Hazards to Life or Health Average number of Occupants Moderate Size Facilities Minimum Potential for Environmental Damage Industrial Storage	Low No Potential Health Hazards Minimum Number of Occupants Minimum Size Facilities Minimum Fire Loss

1. Very High Risk:

Very high risk includes a high probability and maximum consequence. This level of risk has the potential for a high level of life and property loss as well as significant property damage across the entire geographic area. Maximum risks will certainly have a devastating impact on the community's ability to maintain its commercial, residential and industrial tax base. An event of this magnitude would severely impact the community in multiple ways and challenge the community's ability to recover. An event of this nature would most likely include a disaster declaration by the Governor and/or the President of the United States. An example of a Maximum Risk event would be the Cerro Grande Fire that took place in Los Alamos in 2000, Hurricane Katrina, the Loma Prieta Earthquake, or the bombing of the World Trade Center in New York.



2. High Risk:

High risk level has a low probability of occurrence and a high level of consequences. This risk level has the potential for high to moderate life and property loss. A significant risk may vary in magnitude and may create varying threats to those people in the immediate area of impact. Significant risks can also impact those in close proximity to the immediate threat zone. The financial impact related to a significant risk is usually high by threatening the community's economic and social structures. A significant risk will require an extended recovery period but a community that has prepared can recover within a reasonable period of time.

3. Moderate Risk:

Moderate risk has a high probability of occurrence and a low level of consequence. This level of risk can present a potential for life and property loss but these are usually limited to only those areas, properties and residents in the immediate threat zone. A moderate risk usually has an impact both financially and socially but is limited to specific areas unless the community has not allocated adequate resources to respond to a risk of this level. Inadequate resource allocations for moderate risk incidents can cause them to escalate to a significant level of risk requiring additional resources and the possibility for increased life and property loss. Recovery from a moderate risk is usually completed within a brief period of time. Moderate risk incidents seldom require assistance from outside the jurisdictional area.

4. Low Risk:

Low risk has a low probability of occurrence and a low level of consequence. This risk level presents little threat to the community's ability to function unless the community does not have adequate resources allocated to handle this level of risk. The occurrence of this type of event is infrequent and presents little, if any, potential for significant life and property loss or damage.

The relationships between probability and consequence and the community's adopted service level goals determine the needed concentration and distribution of resources. Distribution is the location of resources throughout the city. Concentration is the number of resources needed in a given area within the city. This varies depending on many factors including the number of events (calls for service); the risk factors of the area; the availability, reliability, and time of arrival of secondary responding units; etc. A challenge will be to find the proper balance for the distribution and concentration of resources needed to meet the service level goals today and in the future as the city and the department service areas continue to grow.

D.2 Risk Hazards by District

Response District	Fire Risk Hazard				
	Very High	High	Moderate	Low	Total
1-4	11	3	5	2	21
1-5	61	120	173	7	361
1-6	6	10	9	14	39
3-30E	21	36	58	5	120
30-1E	8	1	2	0	11
30-3E	0		1	3	4
4-1	7	18	7	17	49
5-1	32	40	70	1	143
5-30E	1	0	4	0	5
6-1	41	231	76	90	438
Total	182	459	405	139	1185

Distribution

The term distribution is used in the fire service to describe the location of fire department emergency response resources in an effort to ensure their availability to provide intervention for all risk levels. Because of the cost related to the allocation of fire resources, fire departments use a static response system. A static response system is a system in which fire stations are strategically located in designated response areas across the community or coverage area. This allows fire department units to travel from one point to another in a pre-designated period of time known as response times or performance objectives.

A key component to a static response system is to ensure fire department resources are properly placed based on current and future growth. Properly spaced fire stations are needed to assure a rapid deployment of emergency resources in order to respond to and mitigate average, or routine, emergency calls for service in a timely manner.

Concentration

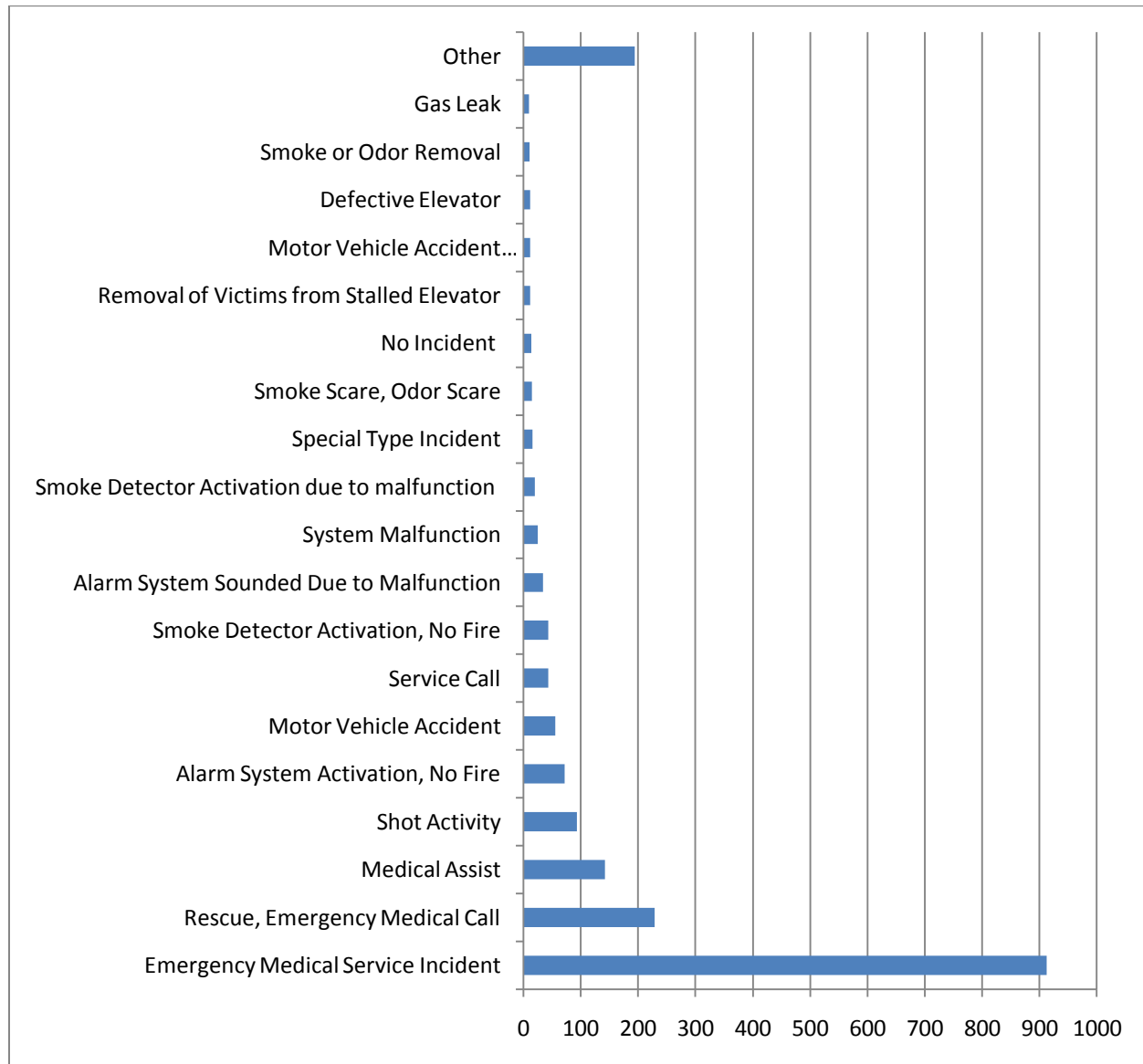
The term concentration is used to describe the spacing of multiple fire department resources so a fire department can assemble an “effective response force” (ERO) at the scene of an emergency incident. An ERO is that which will most likely stop the escalation of the emergency incident as it is categorized in each risk type. Differing incident types require different levels of initial and secondary staffing based on the nature of the incident. These incident specific resource requirements are called critical tasking and are explained in detail later in this document.

It is a critical factor for fire departments to develop specific service level objectives to address the concentration of resources for each risk area.



Calls for service

During the 2009 calendar year, LAFD responded to 1965 calls for service. Of these requests for service, 67% were related to Emergency Medical Services, 43% were Fire related emergencies.

D.3 2009 Incident Type Summary

Educational Facilities

In 2009, the Los Alamos Public School (LAPS) District provided education to 3403 students at five elementary schools, one middle school, and one high school. The state requirements for the LAPS have the capacity for a maximum of 3700 students.

Also, located in the County of Los Alamos is the University of New Mexico –Los Alamos (UNM-LA) Branch. The facility consists of 77,000 square feet with seven buildings. At present UNM-LA has an enrollment of 718 students in the day and evening programs. There are 192 full-time students and 526 part-time students. The campus has the capacity of 1055 students. No dorms or student housing are located on campus. Access to UNM-LA has been identified with good fire access roads and four fire hydrants all within reach for a water supply.

See Appendix for detailed descriptions



EMS Risk Assessment**D.4 EMS Risk Hazards Matrix****EMS RISK HAZARDS**

<ul style="list-style-type: none"> ➤ Ice Rink (District 1) ➤ School of Gymnastics (District 4) ➤ Dance Arts of LA (District 3) ➤ Pajarito Ski Hill (District 1) ➤ Trails and Canyons (All Districts) ➤ Sports Centers to include: athletic fields (District 4 and 3, Aquatic Center (District 1), community pools (2 in District 3, 3 in District 4, 1 in District 6), horse stables/arena (District 4) <p style="text-align: center;">LOW</p>	<ul style="list-style-type: none"> ➤ Los Alamos Schools to include: (6 Preschools [1 in District 1, 3 in District 3 and 2 in District 4], 5 Elementary [2 in District 3 and 3 in District 4] 1 Middle School in District 4, 1 High School and 1 University both in District 1) ➤ 31 Churches (2 in District 1, 8 in District 3, 8 in District 4 and 9 in District 6) ➤ Apartment complexes ➤ Residential homes to include single and multi-family dwellings ➤ Commercial businesses <p style="text-align: center;">MODERATE</p>
<ul style="list-style-type: none"> ➤ Sombrillo Nursing Home (District 6) ➤ Aspen Ridge Assisted Living (District 6) ➤ Los Alamos Senior Center (District 6) ➤ White Rock Senior Center (District 3) ➤ Oppenheimer Place (District 6) ➤ Los Alamos Medical Center (District 1) ➤ Roadway's (St. Rd. 501, 502, and 4) these traverse District's 1, 3 and 6. <p style="text-align: center;">HIGH</p>	<ul style="list-style-type: none"> ➤ LANL (Districts 1, 3, 5 and 6) ➤ Roadways (St. Rd. 501, 502, and 4) these traverse District's 1,3 and 6. ➤ Forest area (encompass Los Alamos County). ➤ Bandelier National Monument (District 5) <p style="text-align: center;">SPECIAL</p>

Medical Risks:**Low:**

These areas have a history of mostly BLS incidents. The ice rink, ski hill, trails and canyons, and sports centers involve a small group of people engaged in high risk activities that have a history of utilizing EMS BLS resources with the occasional need for more advanced care.

Moderate:

These areas have a history of paramedic level service. They include such areas as schools churches, apartment complexes, residential homes, and commercial businesses.

High:

Multiple paramedic level incidents have occurred concurrently in these areas. Because of the nature of the topography of LAC, roadways have been the location of multiple vehicle accidents that require multiple paramedic units. In addition, there are several large senior complexes with a history of multiple paramedic level calls and the potential for multiple unit responses.

Special:

Disasters or mass casualty incidents have the potential of occurring in these locations. LANL is a high population, high risk area and due to topography and weather, local roadways have been locations of multiple casualty events. In addition, the forest area surrounding Los Alamos was the location of a wild land fire disaster in 2000 and this possibility remains a threat.

D.5 Medical Responses Chart**Medical Responses by Chief Complaint**

Year	Cardiac	Diabetic Emergency	Respiratory Emergency	Seizure / CVA	Syncopal Episode	Trauma	Allergic Reaction	MVA	Other
2009	89	22	88	46	55	262	9	76	341
2008	96	27	89	51	52	211	11	76	286
2007	83	18	62	54	48	175	8	104	288
2006	87	28	70	37	70	186	11	79	258

**Inter-facility transports, no patient, DOA or behavioral emergencies are not included.*

The analysis is intended to summarize the types of EMS responses by year to identify trends. The information is utilized to identify training opportunities for EMS responders, as well as, areas that would benefit from public education training.

EMS Case Study: Cardiac Arrest

- 05:03** LAFD dispatched to a private residence for a 78 year-old female in cardiac arrest. Husband states patient was talking 10 minutes prior to arrival. Patient has a history of heart surgery with a partially healed scar up sternum.
- 05:08** Units arrived on scene, found patient supine in bathroom, unresponsive. Patient assessed; no pulse or respirations found, CPR initiated & continued throughout, w/OPA, BVM, O2@15Lpm, pads attached with asystole confirmed by 12-lead.
- 05:13** Combitube placed w/res-q-pod
- 05:14** IV initiated with NS, epinephrine given
- 05:16** BGL: 196, still no pulse, bagging @ 10/min
- 05:18** Atropine given, ETCO2 attached, good waveform, bradycardic PEA on monitor
- 05:19** Vasopressin given, still bradycardic PEA on monitor
- 05:22** Atropine given, still bradycardic PEA on monitor, transport begins
- 05:24** Epinephrine given, still bradycardic PEA on monitor
- 05:29** Epinephrine given, still bradycardic PEA on monitor, 400cc fluid bolus given, arrival at hospital with full report given and patient found to have a pulse



EMS Case Study: Minivan vs. bicycle

- 14:11** LAFD dispatched to male bicyclist struck by a minivan
- 14:16** Medics arrived on scene and found combative patient on ground with bystanders holding him down. Bystanders stated that was riding on the shoulder of the road when he was struck by a minivan (speed limit in the area is 55mph). The driver of the van stated that the patient struck the hood and windshield. Patient was found ~ 20 yards from the vehicle.
- 14:17** Vitals assessed: Pulse: 116, Respirations: 30, Pupils: left: blown, right: sluggish to respond, GCS: 12. Patient was awake, disorientated and combative with slurred, repetitive speech. Patient was unable to answer questions. Bystanders stated patient was unresponsive and not breathing when they approached him initially, but woke up when he was stimulated. Assessment revealed multisystem trauma including ~6" forehead laceration exposing skull, road rash to cheeks/nose, numerous lacerations/road rash noted throughout extremities/limbs, skin pale cool, diaphoretic. High flow O2 applied, patient secured to LSB and 2 large bore IVs initiated. Helicopter contacted and requested to meet at hospital helipad.
- 14:30** Vitals: Pulse: 98, Respirations: 30, SAO2: 98% on 15LPM, Pulse: 98, BP: 110/70, skin: pale, cool diaphoretic, GCS: 12
- 14:34** Enroute to helipad
- 14:50** Vitals: Pulse: 108, Respirations: 30, SAO2: 98% on 15LPM, Pulse: 98, BP: 158/100, skin: pale, cool diaphoretic, GCS: 12
- 15:05** Vitals: Pulse: 104, Respirations: 30, SAO2: 98% on 15LPM, Pulse: 98, BP: 110/70, skin: pale, cool diaphoretic, GCS: 12
- 15:07** Medics arrived at helipad, assisted flight crew with patient assessment, RSI and packaging patient for flight.

Hazardous Materials Risk Hazards

The Los Alamos County Fire Department is responsible for initial response to hazardous materials incidents at the Los Alamos National Laboratories and in the communities within Los Alamos County.

In the past 3 years LAFD has responded to 161 hazardous materials calls:

- 38 Carbon monoxide alarms
- 36 Odor checks
- 29 Gas leaks, natural gas or LPG
- 16 Miscellaneous chemical hazard calls
- 14 Gasoline or flammable liquid spills
- 10 Hazmat standbys for LANL hazmat
- 8 Oil or other combustible liquid spills
- 4 Hazmat release investigations
- 3 Combustible/flammable gas/liquid condition-Other
- 2 Bomb removal scenarios
- 1 Biological scare



D.6

Hazmat Risk Factors

<ul style="list-style-type: none"> ➤ Oil or other combustible liquid spills ➤ Hazmat release investigations <p>LOW</p>	<ul style="list-style-type: none"> ➤ Carbon monoxide alarms ➤ Odor checks ➤ Hazmat Standbys for LANL hazmat ➤ Miscellaneous chemical hazard calls <p>MODERATE</p>
<ul style="list-style-type: none"> ➤ Gasoline or flammable liquid spills ➤ Gas leaks, natural gas or LPG ➤ Explosives emergency response <p>HIGH</p>	<ul style="list-style-type: none"> ➤ Bomb removal scenarios ➤ Biological scares ➤ Radiological emergencies ➤ Nano Technology response <p>SPECIAL</p>

The LANL include the following facilities that may require hazardous materials response:

Nuclear facilities, high explosives and detonation manufacturing facilities, weapons assembly, radioactive materials use (other than nuclear facilities), hazardous waste storage facilities, high electrical and or laser use, computer facilities, facilities with large chemical use or storage, warehouses, explosives storage, machine shops, experimental research laboratories with small radioactive sources or moderate chemicals present, flammable liquid or gas handling and storage facilities.

Micro and Nano Technologies: Typical hazards are associated with lasers, chemicals, microwave radiation, and organic and inorganic and toxic materials. Other hazards include standard industrial hazards, such as, high voltages, power and hand tools, and electronic test equipment.

Chemical and Radiation Detection: Routine hazards are associated with lasers, chemicals, microwave radiation, flames and furnaces, cryogenic materials, compressed gases, and organic, inorganic and toxic materials including toxins, toxin fragments, and bio-hazardous materials. Standard industrial hazards include high voltages, hot and cold surfaces, and test equipment.

Weapons Research & Development: Typical hazards include standard industrial hazards including compressed gases, cryogenic materials and energetic materials. Other hazards include radioactive, toxic, thermal and energetic materials.

Materials and Chemistry Research & Development: Routine hazards include lasers, chemicals, microwave radiation, flames and furnaces, compressed gases, cryogenic materials, extreme ultraviolet radiation, ionizing radiation from accelerators, and organic



and inorganic and energetic materials. Other hazards include cutting, grinding and etching, as well as the use of high voltages, power and hand tools, electronic test equipment and power supplies.

Explosives Storage: Routine hazards include explosive hazards classified by DOT as either 1.1 (mass detonating), 1.2 (non-mass detonating, fragment-producing), 1.3 (mass fire), and 1.4 (moderate fire-no blast).

All laboratory activities above utilize various quantities of cryogenic gases including liquid nitrogen and liquid argon.

Technical Rescue Risk Hazards

The LAFD is responsible for providing initial response to technical rescue incidents to the LANL and the communities within the County.

In the past three years, the LAFD has responded to 40 calls that would be considered technical rescue responses:

29 Stalled elevator removal

4 Extrications other

3 Vehicle extrications

3 High angle rescues

1 Confined space

LAFD has recognized that a high angle rescue/recovery would be the highest risk hazard based on the steep topography of the surrounding canyons. Typical high angle rescues require technical rescue personnel repelling from 200-500 feet into steep dangerous canyons. These incidents are usually body recoveries due to the distance of the victim's fall. LAFD has had one on duty fatality due to a firefighter who slipped on the canyon edge while responding to a rope rescue.

Rescue that could be defined as a high risk would be a confined space rescue scenario at LANL due to the uniqueness of some of their spaces where employees enter to do routine maintenance and the potential for encountering hazardous materials in some of these areas.

Moderate to low risk hazards in our jurisdiction would include vehicle extrications, removing the public from stalled elevators, and other type of extrications such as carrying an injured hiker out.



D.7

<ul style="list-style-type: none"> Low Angle Rescue <p>LOW</p>	<ul style="list-style-type: none"> Vehicle extrications Stalled elevators <p>MODERATE</p>
<ul style="list-style-type: none"> High Angle rescue <p>HIGH</p>	<ul style="list-style-type: none"> Confined Space <p>SPECIAL</p>

Critical Task Analysis

In order to provide life safety and emergency mitigation efforts in an effective manner, it is imperative that firefighters respond to emergencies in a timely manner and with enough trained firefighters to safely mitigate the emergency. Critical tasks are those duties that must be conducted by firefighters in order to safely control emergency incidents.

In order to effectively determine LAFD ability to ensure effective service delivery while maintaining a safe working environment, the department must conduct a critical task analysis. The critical task analysis is the process of matching LAFD's resource deployment to each type of risk. A critical task analysis identifies the necessary staffing level required to safely perform each task and successfully mitigate each risk. A critical task analysis was conducted for the following risk types:

Structure Fires
 Emergency Medical Calls
 Wildland Fires
 Technical Rescues
 Hazardous Material Responses



Critical Tasks - Structure Fire

When there is confirmation of a working fire, a structure response is automatically upgraded to a second alarm that brings an additional engine (Refer to FCD 900.3 Response and Alarm Assignments for further information). The third engine is typically used to establish a TDG and to upgrade from the initial two-person IRIC. The following critical tasks need to be completed on all structure fires:

The first-in engine company and medic company consist of five firefighters who are responsible for the following initial actions:

- Establish command
- Size-up the situation
- Secure a water supply
- Place one line in-service at 150 gallons per minute (GPM)
- Initiate search and rescue, and mitigation efforts within one minute of arrival
- Provide first responder medical aid using automatic external cardiac defibrillator (AED)

An effective response force for an incident is 16 firefighters and 1 chief officer for completing the following tasks:

- Secure a water supply
- Place one line in-service with two firefighters at 150 GPM
- Provide one ventilation team consisting of two firefighters
- Provide one search and rescue team consisting of two firefighters
- Establish command outside the hazard area with a dedicated position
Comply with the requirements of Two In/Two out (OSHA 1910.134) consisting of two firefighters
- Provide a second attack line with two firefighters and a minimum of 150 GPM
- Establish the capability of flowing 400 GPM without interruption

Some of the specific position responsibilities are listed below:

Attack line-A firefighting line staffed with a minimum of two firefighters capable of delivering an effective fire attack with a minimum of 150 GPM.

Back-up Line-This is the same size as the attack line, but can be larger and staffed with a minimum of two firefighters. The back-up line is used to protect the fire attack crew in the event of a flashover or a problem arising with the initial attack crew.

Search and Rescue-A minimum of two firefighters assigned to search the structure for victims. The crew locates and removes any victims while the fire attack and ventilation are being completed.

Ventilation- A minimum of two firefighters assigned to provide vertical and/or horizontal ventilation.

Initial Rapid Intervention Crew- A minimum of two firefighters assigned to stage in a ready position near the entry point of the involved structure. Their purpose is to provide search and rescue for lost or injured firefighters inside the structure and/or to



assist with the removal of victims.

Tactical Deployment Team (TDG)- The objective of TDG is to have assigned personnel equipped, organized, and ready to react and respond to the immediate needs on the fire ground, especially the rescue of injured or trapped firefighters or civilians.

Pump Operator/Driver Engineer-This position is responsible for the operation of the pumper to deliver water at the proper pressure to the attack lines, and the initial accountability location.

Water Supply- One or more firefighters responsible for providing uninterrupted water supply to the attack engine. This is accomplished by laying a five-inch supply line.

Command- An officer responsible for coordinating the fire operation.

Safety/Operation- This officer is responsible for making sure that safe firefighting operations are being conducted.

First Alarm – All Structure Fire and Automatic Fire Alarm

Task	Staffing Level	Units Assigned
Initial Attack Line and Primary Search and Water Supply	2	1st Engine
Primary Search and Rescue	2	1st Medic
Ventilation/Ladder, Access	3	Truck-1
Back up Hose line	3	2nd Engine
Initial Rapid Intervention Crew and Initial Medical Aid	2	2nd Medic
Secondary S&R	2	Rescue-1
Pump Operator/Accountability	1	1st Engine
Command (Battalion Chief and Support Officer)	2	Battalion Chief
1st Alarm Total Personnel	17	

Second and Third Alarm – Structure Fire and Automatic Fire Alarm

Task	Staffing Level	Units Assigned
1st Alarm Total Personnel	17	
TDG - maybe assigned any of the following tasks: Rescue, Utilities, Salvage, Overhaul, Medical, Rehab etc.	6	3rd and 4th Engines (may be requested)
2nd and 3rd Alarm Total Personnel	23	



Critical Tasks - Emergency Medical Services

Emergency incidents are time-sensitive and require the prompt response of an appropriately staffed ambulance. There is a direct correlation between the total time from injury/illness to definitive care and positive clinical outcomes. Blood flow to the brain is essential. According to the American Heart Association in a cardiac arrest, irreversible brain damage will occur in four to six minutes. In cardiac arrests, quick EMS response, CPR, and early defibrillation by EMS personnel have a direct correlation in decreased mortality.

Standard operating procedures have been developed for Medical, Trauma, and cardiac arrest responses. These procedures serve as a guide for the initial scene management of an emergency event and are identified in the table. The identified positions are assigned as the incident progresses by the Incident Commander or the responder with the highest level of medical certification on scene. The Incident Commander is responsible for scene safety and command of the incident. All personnel wear appropriate personal protective equipment and all crew members are responsible for their portable radio.

MEDICAL, TRAUMA, CPR CRITICAL TASKS

MEDICAL CRITICAL TASKS		
Position	Equipment	Responsibilities
Medic Unit	Medical Bag, Oxygen Defibrillator	1) ABCs and level of consciousness 2) Patient assessment – PQRST – SAMPLE 3) Basic life support 4) Patient information 5) Contact base hospital as needed
Engine Company	Airway Bag, Suction Unit, gurney from Medic Unit	1) Basic airway management – adjuncts, oxygen, administration 2) Vital signs 3) Monitor and oxygen saturation hook up 4) Equipment set up, IV set up
Rescue Unit (if Needed)	Paramedic On Scene	1) ALS Intervention (intubations, IV, medications) 2) Assist crews for transport
Company Officer	Incident Commander	1) Overall Scene Safety 2) Family member / bystander information

TRAUMA CRITICAL TASKS		
Position	Equipment	Responsibilities
Medic Unit	Medical Bag, Oxygen and Defibrillator	1) ABCs 2) Patient assessment trauma survey / secondary / GCS 3) Advanced life support – intubations, IV, medications 4) Patient information 5) Contact base hospital, as needed
Engine	Airway Bag and	1) Basic airway management adjuncts, oxygen,



Company	Suction Unit, Gurney from Medic Unit	administration 2) Cervical spine management and spinal immobilization 3) Vital signs 3) Monitor and oxygen saturation hook up
Rescue Unit (if needed)	Extrication (if needed) Paramedic On Scene	1) Extrication, as needed 2) Splinting 3) Equipment set up, IV set up 4) Assist with vital signs 5) Advanced life support – intubations, IV, medications
Company Officer	Incident Commander	1) Overall Scene Safety 2) Family member / bystander information

CPR CRITICAL TASKS		
Position	Equipment	Responsibilities
Medic Unit	Medical Bag and Defibrillator	1) Establish unresponsiveness and ABCs 2) Airway control and management 3) Medications and IV 4) ALS intervention 5) Equipment set up, IV set up
Engine Company	Airway Bag and Suction Unit	1) Ventilation 2) Compressions 2) Ongoing airway assessment and management
Rescue Unit (if Needed)	Paramedic On Scene	1) ALS intervention 2) Cardiac Rhythm interpretation and treatment 3) Equipment set up, IV set up
Company Officer	Incident Commander	1) Patient information turnover 2) Contact base hospital, as needed 3) Overall Scene Safety and Management 4) Family member / bystander information



Critical Tasks - Wildland Fire

The first LAFD unit on scene shall establish IC to assess and report the need for additional resources, structures threatened, location, slope, aspect, and size of the fire. Additional size up considerations includes: wind speed and direction, direction of spread, rate of spread, fuel type and fire intensity. The on duty Battalion Chief shall notify all Chief Officers and outside agencies in the event fire activity/behavior exceeds resources available for suppression operations. All out of county responses or non-LAFD resources requested shall be coordinated through the Santa Fe Zone Dispatch Center.

All LAFD units involved with wildland suppression operations shall be supported by LAFD for the first 24-hour operational period. After the first 24-hour operational period, an incident management team shall provide support for all LAFD units involved with suppression activities.

Some of the specific position tasks are listed below:

Constructing Control Line- An inclusive term for all constructed or natural fire barriers and treated fire edge used to control the fire.

Direct Attack-A method of suppression that treats the fire as a whole, or all its burning edge, by wetting, cooling, smothering, or chemically quenching the fire or by mechanically separating the fire from unburned fuel.

Indirect Attack-A method of suppression in which the control line is located along natural fuel breaks, favorable breaks in topography, or at considerable distance from the fire and intervening fuel is burned out.

Mop Up – A method in which burning materials are extinguished with the aid of water, or in combination with water and soil.

Cold Trailing- A method of controlling a partly dead fire edge by carefully inspecting and feeling with the hand to detect any fire, digging out every live spot, and trenching any live edge.

Pump operator/Driver Engineer-This position is responsible for the operation of the pumper to deliver water at the proper pressure to the attack lines, and the initial accountability location.

Command- An officer responsible for coordinating the fire operation.

Safety/Operation- This officer is responsible for making sure that safe firefighting operations are being conducted.

D.15 Critical Task Wildland First Alarm

First Alarm – Brush Fire in Open Area

Task	Staffing Level	Units Assigned
Smoke investigation	2	Mini-Tender or Tender
Wildland Suppression	5	Mini-Tender or Tender and Engine
Command	2	Battalion Chief /Support Officer
Rehab	4	Medic and Rescue
1st Alarm Total Personnel	11	



First Alarm – Brush Fire With Structural Exposure

Task	Staffing Level	Units Assigned
Command	5	B/C-1, Chief 1, Chief 3 and Chief 4
Suppression Operations	4	2 Mini-Tender, 2 Tender
Structure Protection/Ops.	3	Engine
Rehab	4	Medic and Rescue
Total Personnel	16	

First Alarm- Fire Wildland Urban Interface

Task	Staffing Level	Units Assigned
Command	5	B/C-1, Chief 1, Chief 3 and Chief 4
Suppression Operations	4	2 Mini-Tender, 2 Tender
Structure Protection/Ops.	8	2 Engine's and rescue
Rehab	4	2 Medic
Total Personnel	21	

Critical Tasks – Technical Rescue

The first LAFD unit on scene shall establish IC to assess and report the need for additional resources, secure scene safety, communication and begin making assignments.

Command- An officer responsible for coordinating the fire operation.

Safety/Operation- This officer is responsible for making sure that safe rescue operations are being conducted.

First Alarm- Technical Rescue

Task	Staffing Level	Units Assigned
Command	5	B/C-1, Chief 1, Chief 3 and Chief 4
Technical Rescue	11	2 Engine's, Rescue, Medic and TRT
Total Personnel	16	

Critical Tasks – Hazardous Materials Responses

Upon receiving the report of a hazardous material release or suspected release, at a minimum, one engine company will respond with computer aided dispatch recommending one engine, one medic, one rescue unit and a battalion unit. The Battalion Chief may request additional resources for incidents involving large spills, multiple patients, a prolonged incident or widespread evacuation.

The first-in engine company and medic company consist of five firefighters who are responsible for the following initial actions:

- Approach the incident from a direction of uphill, upgrade, and upwind
- Establish command
- Establish an incident command post in a safe area
- Set up a staging area outside the perimeter
- Appoint a safety officer
- Size-up the situation

- Identify/assess hazards from a safe distance
- Isolate and deny entry using the Emergency Response Guide book to set a perimeter, controlling entry points.
- Perform a rescue after a risk analysis set up a staging area outside the perimeter
- Set up a staging area outside the perimeter
- Evacuate or shelter populations effected by the hazardous materials release
- Contain by damming, diking, or diverting without coming in direct contact with the hazardous material
- The LANL Hazardous Materials team will be requested for a control measures are needed where personnel will come in contact with the hazardous material
- Emergency decontamination if needed

First Alarm- Hazmat Incident

Task	Staffing Level	Units Assigned
Incident Command, Isolate and Deny Entry	7	1 st Engine, Medic and Battalion Unit
Rescue	2	1 st Rescue
Total	9	

Second Alarm- Hazmat Incident

Task	Staffing Level	Units Assigned
Containment	3	2 nd Engine (requested by command)
Emergency Decontamination	2	3 rd Engine (requested by command)
Evacuation/Shelter in Place	3+	Additional engine companies depending on evacuation area size and population involved (requested by command)
Total	8+	



E. Historical Perspective and Summary of System Performance

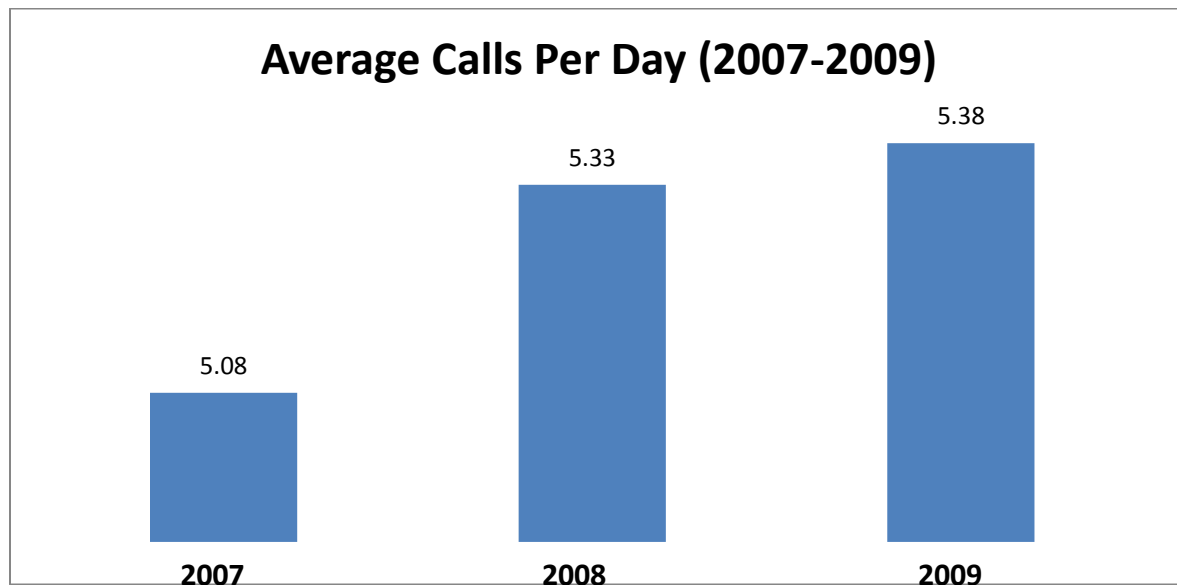
The LAFD completed a comprehensive review of historical emergency response as well as a performance measurement of the current system. Our resource distribution, concentration and reliability were scrutinized thoroughly.

The scope of the assessment includes data primarily from 2007, 2008 and 2009. Beginning in September of 2007, the Department began service with a Consolidated Dispatch Center (CDC) which allowed for more accurate time keeping. The assessment covers turnout times, travel times, response times, incident duration, call processing times and call distribution by certain sub categories of data. Month of the year, day of the week, and hour of the emergency have been analyzed as well. A total of 5611 calls for service were met by the LAFD since 2007. Calls for service break down by year in the following manner:

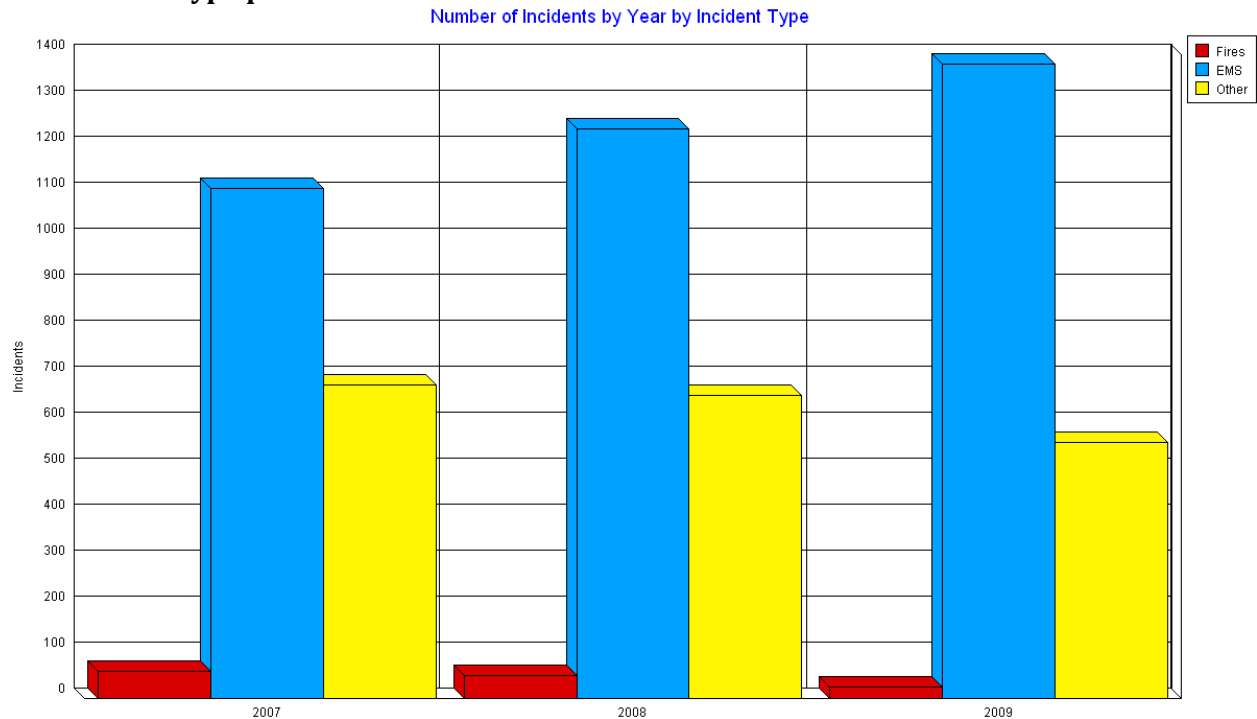
E.1 Incidents per Year

Year	Incidents
2007	1855
2008	1950
2009	1965

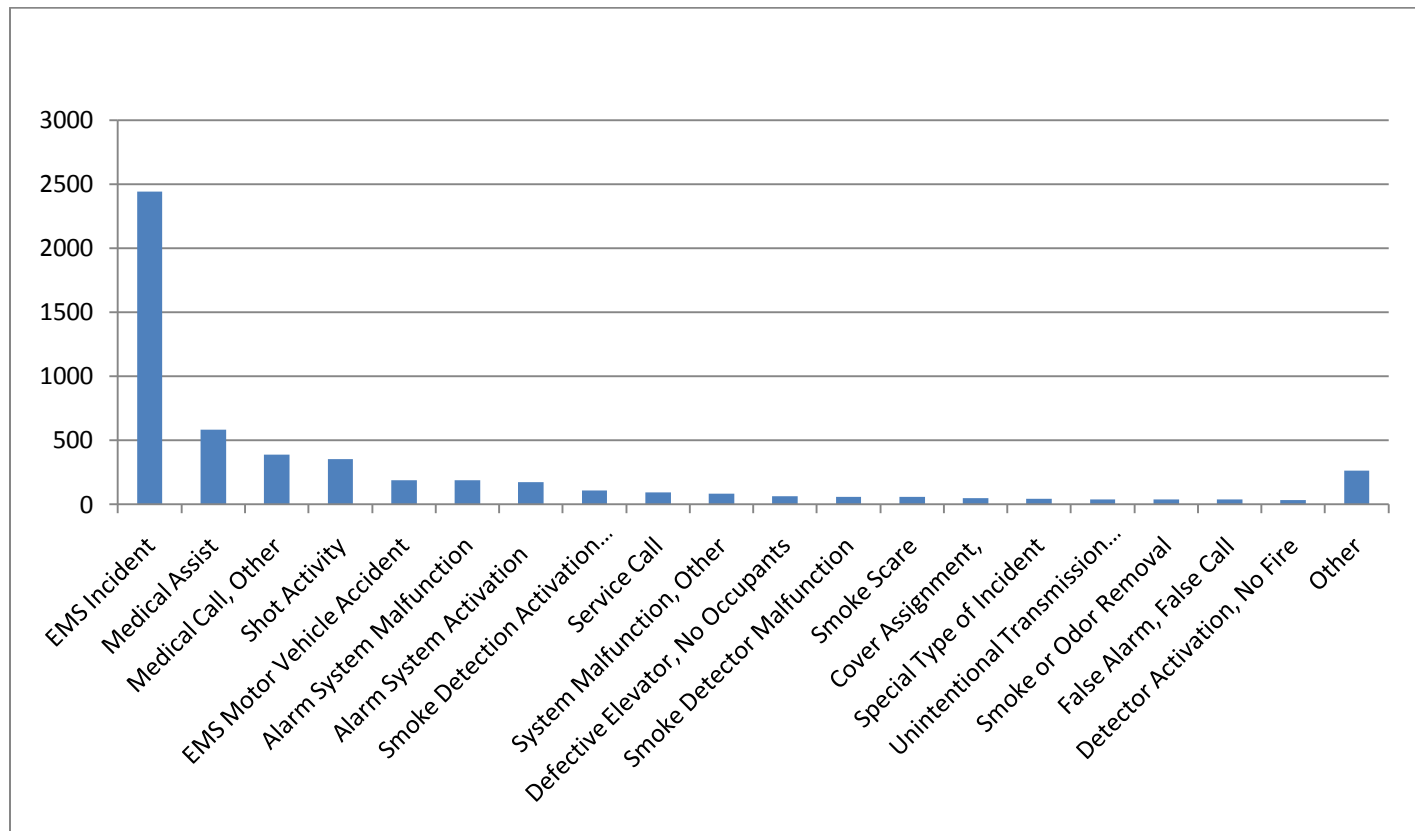
E.2 Average call per day (2007-2009)



E.3 Incident Type per Year



E.4 Number and Type of Incidents (2007-2009)



Distribution

Distribution relays a geographical analysis of first-due resources to prove initial incident intervention to achieve specific benchmarks and goals. Distribution also assures quick deployment in order to reduce and stop damages.

The LAFD currently staffs five fire stations with a minimum of 37 personnel on duty each day. Staffing is spread among six engine companies, one truck company, one rescue company, six medic units, and one shift Battalion Chief and a Support Officer. Specific first in units and their respective station assignments are identified as follows:

Station 1: Battalion -1, Engine-1, Truck-1, Rescue-1, Medic-1

Station 3: Engine-3, Engine 30, Medic-3, Medic-30

Station 4: Engine-4, Medic-4

Station 5: Engine-5, Medic-5

Station 5: Engine-6, Medic-6

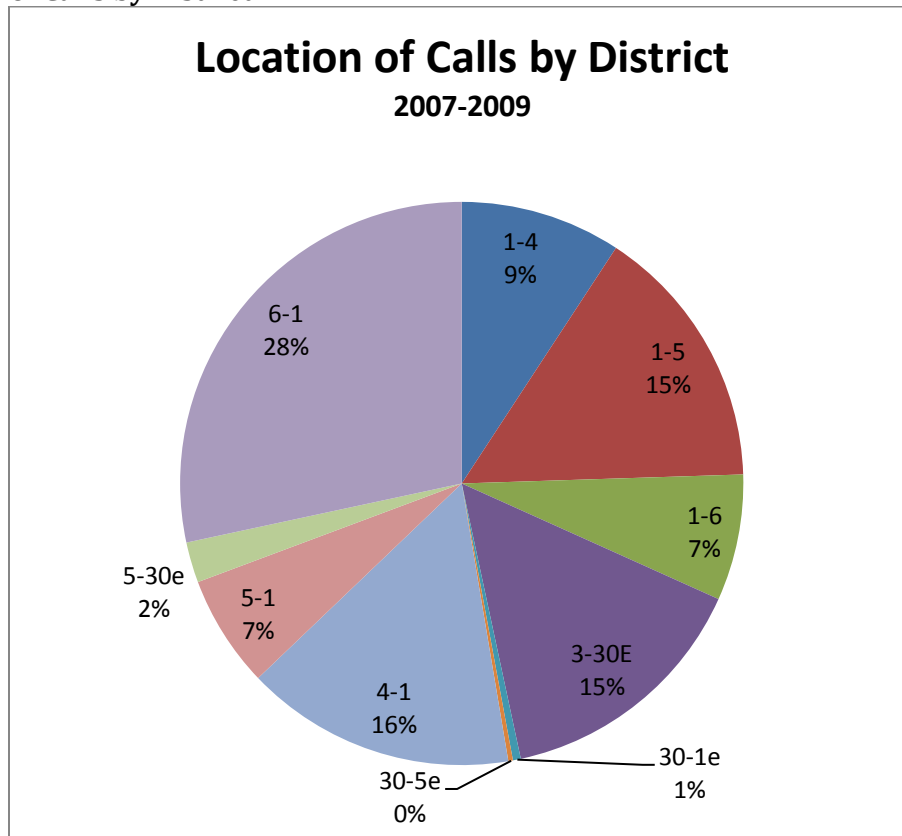
Calls were analyzed by station to help analyze current station and apparatus distribution.

E.5 Number of Incidents by Station

Station	2007	2008	2009
Station 1	583	589	486
Station 3	237	302	337
Station 4	343	356	348
Station 5	213	168	180
Station 6	471	534	613
Admin	8	1	1
Total	1855	1950	1965



E.6 Location of Calls by District



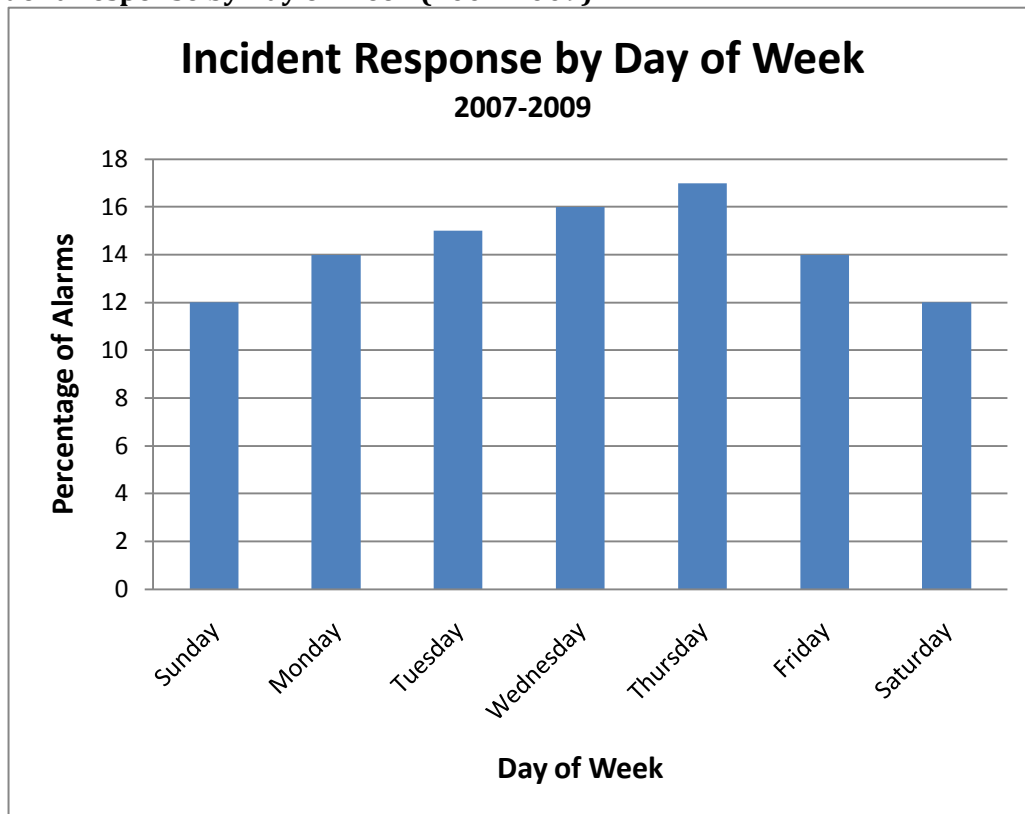
E.7 Calls by Station by Month

Chart displays calls by station by month from 01/01/2007 through 12/31/2009

	Sta-1	Sta-3	Sta-4	Sta-5	Sta-6	Admin	Monthly Counts
January	147	69	73	20	136	1	446
February	148	65	83	30	119	0	445
March	131	64	91	35	134	0	455
April	111	70	63	40	119	0	403
May	139	92	103	50	134	2	520
June	128	69	86	66	148	2	499
July	151	75	117	81	148	1	573
August	154	93	94	83	152	2	578
September	141	72	95	60	138	0	506
October	165	86	75	39	128	0	493
November	111	53	71	28	113	2	378
December	132	68	96	29	149	0	474
Totals	1658	876	1047	561	1618	10	5770



E. 8 Incident Response by Day of Week (2007-2009)

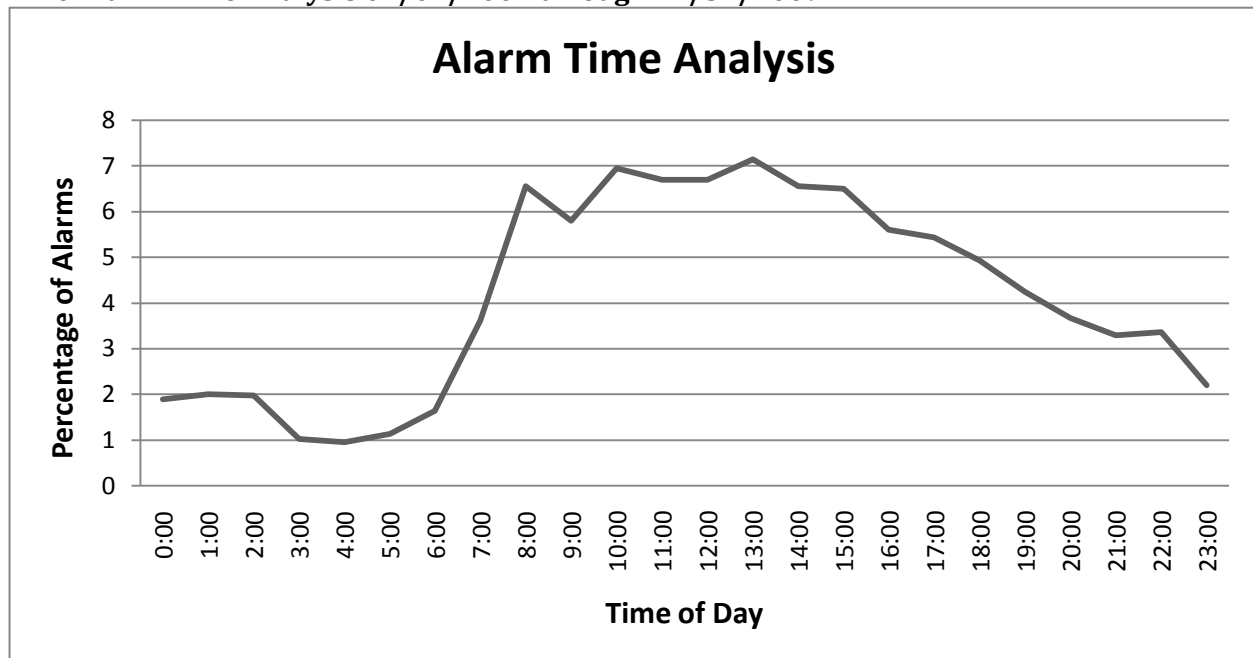


E.9 Calls by Day of the Week by Station

Chart displays calls by station by day of the week from 01/01/2007 through 12/31/2009

	Sta-1	Sta-3	Sta-4	Sta-5	Sta-6	Admin	Total
Sunday	162	127	138	22	224	0	673
Monday	247	125	154	71	224	1	822
Tuesday	254	134	141	109	230	2	870
Wednesday	277	125	140	128	216	2	888
Thursday	297	135	164	136	226	1	959
Friday	241	117	164	66	256	2	846
Saturday	180	113	146	29	242	2	712
Total	1658	876	1047	561	1618	10	5770



E. 10 Alarm Time Analysis 01/01/2007 through 12/31/2009**E.11 Time of Day by Station Alarm Hour Analysis 01/01/2007 through 12/31/2009**

Time of Day	Sta-1	Sta-3	Sta-4	Sta-5	Sta-6	Admin	Total
00:00-05:59	135	97	124	15	151	0	
06:00-11:59	523	267	262	296	461	2	
12:00-17:59	724	293	355	213	619	7	
18:00-23:59	276	219	306	37	387	1	
Total	1658	876	1047	561	1618	10	5770

A thorough analysis of our response data indicates the Fire Department's call volume is not taxing the department's ability to deliver appropriate resources in a timely manner.

Concentration

Concentration is the careful analysis of the arrangement of multiple resources with the particular emphasis on the spacing of available resources in order to provide an "effective response force" at the incident within the specified times frames.

This type of analysis provides data to ensure that resources are placed in strategic locations to provide backup to neighboring response districts and to ensure the ability to provide an effective response force at the scene of an escalating emergency in a timely manner.

This analysis provides a detailed look at travel times for first due and the balance of the alarm assignment. The department does have problems separating travel time from turn out time. This is discussed more thoroughly in Section F.



E.12 First Unit on Scene Travel Time

	5 Min	6 Min	7 Min	8 Min	9 Min	10 Min	11 Min	12 Min	13 Min	14 Min	15 Min
Suburban	86.10%	91.50%	95.10%	97.60%	98.30%	98.90%	99.60%	100.00%	100.00%	100.00%	100.00%
Median Travel	00:02:51 (2.85 minutes)										
Average Travel	00:03:10 (3.16 minutes)										
Rural	76.70%	86.70%	94.00%	96.80%	98.20%	99.30%	99.70%	100.00%	100.00%	100.00%	100.00%
Median Travel	00:03:44 (3.73 minutes)										
Average Travel	00:03:55 (3.92 minutes)										

9/1/2007 through 12/31/2009

E.13 Balance of Alarm On Scene Travel Time

Suburban Fire					
There are six Apparatus records being analyzed.					
One record was ignored as an outlier.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:01:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:02:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:03:00	100.0% (1)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:04:00	100.0% (1)	100.0% (1)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:05:00	100.0% (1)	100.0% (1)	100.0% (1)	.0% (0)	.0% (0)
Travel (CAD) <= 00:06:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	.0% (0)
Travel (CAD) <= 00:07:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:08:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:09:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:10:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:11:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:12:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:13:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:14:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Travel (CAD) <= 00:15:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)
Minutes to 90%	0:03:00	0:04:00	0:05:00	0:06:00	0:07:00
Minutes to 80%	0:03:00	0:04:00	0:05:00	0:06:00	0:07:00

9/1/2007 - 12/31/2009

Balance of Alarm

A balance of alarm for fire is met when the 5th responding unit arrives on scene. Only one response met the criteria for Balance of Alarm for Suburban Fire from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Suburban EMS					
There are 2,153 Apparatus records being analyzed.					
Seven records were ignored as outliers.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:01:00	9.7% (90)	5.0% (45)	5.1% (14)	6.9% (2)	27.3% (3)
Travel (CAD) <= 00:02:00	31.6% (294)	22.4% (202)	11.4% (31)	13.8% (4)	27.3% (3)
Travel (CAD) <= 00:03:00	56.1% (522)	43.1% (389)	21.7% (59)	24.1% (7)	36.4% (4)
Travel (CAD) <= 00:04:00	77.3% (720)	60.9% (550)	34.6% (94)	31.0% (9)	54.5% (6)
Travel (CAD) <= 00:05:00	87.6% (816)	75.3% (680)	54.8% (149)	51.7% (15)	54.5% (6)
Travel (CAD) <= 00:06:00	93.1% (867)	85.0% (768)	71.3% (194)	55.2% (16)	54.5% (6)
Travel (CAD) <= 00:07:00	95.9% (893)	91.0% (822)	83.1% (226)	65.5% (19)	63.6% (7)
Travel (CAD) <= 00:08:00	97.6% (909)	95.7% (864)	89.3% (243)	75.9% (22)	81.8% (9)
Travel (CAD) <= 00:09:00	98.1% (913)	96.9% (875)	93.0% (253)	79.3% (23)	81.8% (9)
Travel (CAD) <= 00:10:00	98.5% (917)	98.0% (885)	95.6% (260)	89.7% (26)	100.0% (11)
Travel (CAD) <= 00:11:00	99.1% (923)	98.7% (891)	98.2% (267)	89.7% (26)	100.0% (11)
Travel (CAD) <= 00:12:00	99.6% (927)	99.6% (899)	98.2% (267)	93.1% (27)	100.0% (11)
Travel (CAD) <= 00:13:00	99.9% (930)	99.7% (900)	98.9% (269)	100.0% (29)	100.0% (11)
Travel (CAD) <= 00:14:00	100.0% (931)	99.8% (901)	98.9% (269)	100.0% (29)	100.0% (11)
Travel (CAD) <= 00:15:00	100.0% (931)	100.0% (903)	100.0% (272)	100.0% (29)	100.0% (11)
Minutes to 90%	0:06:00	0:07:00	0:08:00	0:10:00	0:10:00
Minutes to 80%	0:05:00	0:06:00	0:07:00	0:09:00	0:08:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for EMS is met when the 3rd responding unit arrives on scene.



Suburban Rescue					
There are four Apparatus records being analyzed.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	0%
Travel (CAD) <= 00:01:00	.0% (0)	.0% (0)	.0% (0)	100.0% (1)	0%
Travel (CAD) <= 00:02:00	.0% (0)	.0% (0)	.0% (0)	100.0% (1)	0%
Travel (CAD) <= 00:03:00	.0% (0)	.0% (0)	.0% (0)	100.0% (1)	0%
Travel (CAD) <= 00:04:00	.0% (0)	.0% (0)	.0% (0)	100.0% (1)	0%
Travel (CAD) <= 00:05:00	.0% (0)	.0% (0)	.0% (0)	100.0% (1)	0%
Travel (CAD) <= 00:06:00	100.0% (1)	.0% (0)	.0% (0)	100.0% (1)	0%
Travel (CAD) <= 00:07:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:08:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:09:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:10:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:11:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:12:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:13:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:14:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Travel (CAD) <= 00:15:00	100.0% (1)	100.0% (1)	100.0% (1)	100.0% (1)	0%
Minutes to 90%	0:06:00	0:07:00	0:07:00	0:01:00	0:00:00
Minutes to 80%	0:06:00	0:07:00	0:07:00	0:01:00	0:00:00
Minutes to 80%	0:03:00	0:04:00	0:05:00	0:06:00	0:07:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for rescues is met when the 4th responding unit arrives on scene. Only one response met the criteria for Balance of Alarm for Suburban Rescue from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Suburban Hazmat

There are 52 Apparatus records being analyzed.

Three records were ignored as outliers.

Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:01:00	.0% (0)	.0% (0)	10.0% (1)	25.0% (1)	66.7% (2)
Travel (CAD) <= 00:02:00	11.1% (2)	14.3% (2)	20.0% (2)	25.0% (1)	66.7% (2)
Travel (CAD) <= 00:03:00	22.2% (4)	21.4% (3)	30.0% (3)	25.0% (1)	66.7% (2)
Travel (CAD) <= 00:04:00	44.4% (8)	42.9% (6)	40.0% (4)	75.0% (3)	100.0% (3)
Travel (CAD) <= 00:05:00	61.1% (11)	57.1% (8)	60.0% (6)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:06:00	72.2% (13)	57.1% (8)	70.0% (7)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:07:00	94.4% (17)	92.9% (13)	80.0% (8)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:08:00	94.4% (17)	92.9% (13)	90.0% (9)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:09:00	94.4% (17)	100.0% (14)	90.0% (9)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:10:00	94.4% (17)	100.0% (14)	100.0% (10)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:11:00	100.0% (18)	100.0% (14)	100.0% (10)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:12:00	100.0% (18)	100.0% (14)	100.0% (10)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:13:00	100.0% (18)	100.0% (14)	100.0% (10)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:14:00	100.0% (18)	100.0% (14)	100.0% (10)	100.0% (4)	100.0% (3)
Travel (CAD) <= 00:15:00	100.0% (18)	100.0% (14)	100.0% (10)	100.0% (4)	100.0% (3)
Minutes to 90%	0:07:00	0:07:00	0:08:00	0:05:00	0:04:00
Minutes to 80%	0:07:00	0:07:00	0:07:00	0:05:00	0:04:00

9/1/2007 - 12/31/2009

Balance of Alarm

A balance of alarm for hazardous materials is met when the 4th responding unit arrives on scene. Only four responses met the criteria for Balance of Alarm for suburban hazardous materials from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Suburban Wildland Fire					
There are seven Apparatus records being analyzed.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	0%
Travel (CAD) <= 00:01:00	.0% (0)	.0% (0)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:02:00	.0% (0)	50.0% (1)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:03:00	50.0% (1)	50.0% (1)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:04:00	50.0% (1)	50.0% (1)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:05:00	50.0% (1)	50.0% (1)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:06:00	50.0% (1)	100.0% (2)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:07:00	100.0% (2)	100.0% (2)	100.0% (2)	.0% (0)	0%
Travel (CAD) <= 00:08:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:09:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:10:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:11:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:12:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:13:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:14:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:15:00	100.0% (2)	100.0% (2)	100.0% (2)	100.0% (1)	0%
Minutes to 90%	0:07:00	0:06:00	0:07:00	0:08:00	0:00:00
Minutes to 80%	0:07:00	0:06:00	0:07:00	0:08:00	0:00:00
Minutes to 80%	0:03:00	0:04:00	0:05:00	0:06:00	0:07:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for wildland fire is met when the 4th responding unit arrives on scene. Only one response met the criteria for Balance of Alarm for suburban wildland fire from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Rural Fire					
There are 35 Apparatus records being analyzed.					
12 records were ignored as outliers.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:01:00	33.3% (1)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:02:00	33.3% (1)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:03:00	100.0% (3)	20.0% (1)	40.0% (2)	.0% (0)	.0% (0)
Travel (CAD) <= 00:04:00	100.0% (3)	60.0% (3)	40.0% (2)	.0% (0)	.0% (0)
Travel (CAD) <= 00:05:00	100.0% (3)	80.0% (4)	60.0% (3)	25.0% (1)	25.0% (1)
Travel (CAD) <= 00:06:00	100.0% (3)	100.0% (5)	80.0% (4)	25.0% (1)	50.0% (2)
Travel (CAD) <= 00:07:00	100.0% (3)	100.0% (5)	80.0% (4)	25.0% (1)	50.0% (2)
Travel (CAD) <= 00:08:00	100.0% (3)	100.0% (5)	80.0% (4)	50.0% (2)	50.0% (2)
Travel (CAD) <= 00:09:00	100.0% (3)	100.0% (5)	80.0% (4)	50.0% (2)	50.0% (2)
Travel (CAD) <= 00:10:00	100.0% (3)	100.0% (5)	80.0% (4)	75.0% (3)	75.0% (3)
Travel (CAD) <= 00:11:00	100.0% (3)	100.0% (5)	80.0% (4)	100.0% (4)	75.0% (3)
Travel (CAD) <= 00:12:00	100.0% (3)	100.0% (5)	100.0% (5)	100.0% (4)	75.0% (3)
Travel (CAD) <= 00:13:00	100.0% (3)	100.0% (5)	100.0% (5)	100.0% (4)	75.0% (3)
Travel (CAD) <= 00:14:00	100.0% (3)	100.0% (5)	100.0% (5)	100.0% (4)	100.0% (4)
Travel (CAD) <= 00:15:00	100.0% (5)	100.0% (5)	100.0% (5)	100.0% (4)	100.0% (4)
Minutes to 90%	0:04:00	0:06:00	0:12:00	0:11:00	0:14:00
Minutes to 80%	0:04:00	0:05:00	0:06:00	0:11:00	0:14:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for fire is met when the 5th responding unit arrives on scene. Only four responses met the criteria for Balance of Alarm for rural fire from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Rural EMS					
There are 1,993 Apparatus records being analyzed.					
3 records were ignored as outliers.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:01:00	4.2% (37)	2.5% (21)	4.4% (10)	3.2% (1)	28.6% (2)
Travel (CAD) <= 00:02:00	12.8% (114)	8.9% (74)	6.2% (14)	6.5% (2)	28.6% (2)
Travel (CAD) <= 00:03:00	31.2% (278)	21.6% (180)	14.6% (33)	12.9% (4)	28.6% (2)
Travel (CAD) <= 00:04:00	57.7% (514)	46.8% (391)	20.4% (46)	22.6% (7)	42.9% (3)
Travel (CAD) <= 00:05:00	78.8% (702)	68.0% (568)	35.0% (79)	32.3% (10)	42.9% (3)
Travel (CAD) <= 00:06:00	89.0% (793)	81.2% (678)	51.3% (116)	48.4% (15)	42.9% (3)
Travel (CAD) <= 00:07:00	95.4% (850)	88.1% (736)	61.5% (139)	54.8% (17)	71.4% (5)
Travel (CAD) <= 00:08:00	97.4% (868)	92.6% (773)	68.1% (154)	64.5% (20)	85.7% (6)
Travel (CAD) <= 00:09:00	98.5% (878)	95.8% (800)	77.4% (175)	80.6% (25)	85.7% (6)
Travel (CAD) <= 00:10:00	99.2% (884)	97.5% (814)	83.6% (189)	80.6% (25)	100.0% (7)
Travel (CAD) <= 00:11:00	99.3% (885)	97.8% (817)	90.3% (204)	87.1% (27)	100.0% (7)
Travel (CAD) <= 00:12:00	99.4% (886)	98.3% (821)	94.7% (214)	96.8% (30)	100.0% (7)
Travel (CAD) <= 00:13:00	99.7% (888)	99.4% (830)	97.3% (220)	96.8% (30)	100.0% (7)
Travel (CAD) <= 00:14:00	100.0% (891)	99.6% (832)	99.1% (224)	96.8% (30)	100.0% (7)
Travel (CAD) <= 00:15:00	100.0% (891)	100.0% (835)	100.0% (226)	100.0% (31)	100.0% (7)
Minutes to 90%	0:07:00	0:08:00	0:11:00	0:12:00	0:10:00
Minutes to 80%	0:06:00	0:06:00	0:10:00	0:09:00	0:08:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for EMS is met when the 3rd responding unit arrives on scene.



Rural Rescue					
There are 29 Apparatus records being analyzed.					
Three records were ignored as outliers.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:01:00	16.7% (1)	.0% (0)	16.7% (1)	.0% (0)	.0% (0)
Travel (CAD) <= 00:02:00	16.7% (1)	.0% (0)	16.7% (1)	.0% (0)	33.3% (1)
Travel (CAD) <= 00:03:00	33.3% (2)	16.7% (1)	16.7% (1)	.0% (0)	33.3% (1)
Travel (CAD) <= 00:04:00	33.3% (2)	16.7% (1)	33.3% (2)	20.0% (1)	33.3% (1)
Travel (CAD) <= 00:05:00	50.0% (3)	33.3% (2)	50.0% (3)	20.0% (1)	33.3% (1)
Travel (CAD) <= 00:06:00	50.0% (3)	66.7% (4)	50.0% (3)	40.0% (2)	33.3% (1)
Travel (CAD) <= 00:07:00	83.3% (5)	66.7% (4)	50.0% (3)	40.0% (2)	33.3% (1)
Travel (CAD) <= 00:08:00	83.3% (5)	83.3% (5)	66.7% (4)	40.0% (2)	33.3% (1)
Travel (CAD) <= 00:09:00	83.3% (5)	83.3% (5)	66.7% (4)	80.0% (4)	33.3% (1)
Travel (CAD) <= 00:10:00	100.0% (6)	83.3% (5)	83.3% (5)	80.0% (4)	33.3% (1)
Travel (CAD) <= 00:11:00	100.0% (6)	83.3% (5)	83.3% (5)	80.0% (4)	66.7% (2)
Travel (CAD) <= 00:12:00	100.0% (6)	83.3% (5)	83.3% (5)	100.0% (5)	66.7% (2)
Travel (CAD) <= 00:13:00	100.0% (6)	100.0% (6)	83.3% (5)	100.0% (5)	66.7% (2)
Travel (CAD) <= 00:14:00	100.0% (6)	100.0% (6)	100.0% (6)	100.0% (5)	66.7% (2)
Travel (CAD) <= 00:15:00	100.0% (6)	100.0% (6)	100.0% (6)	100.0% (5)	100.0% (3)
Minutes to 90%	0:10:00	0:13:00	0:14:00	0:12:00	0:15:00
Minutes to 80%	0:07:00	0:08:00	0:10:00	0:09:00	0:15:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for rescue is met when the 4th responding unit arrives on scene. Only five responses met the criteria for Balance of Alarm for rural rescue from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Rural Hazmat					
There are 17 Apparatus records being analyzed.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	0%
Travel (CAD) <= 00:01:00	12.5% (1)	16.7% (1)	.0% (0)	.0% (0)	0%
Travel (CAD) <= 00:02:00	50.0% (4)	33.3% (2)	.0% (0)	.0% (0)	0%
Travel (CAD) <= 00:03:00	50.0% (4)	33.3% (2)	.0% (0)	.0% (0)	0%
Travel (CAD) <= 00:04:00	62.5% (5)	50.0% (3)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:05:00	62.5% (5)	50.0% (3)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:06:00	87.5% (7)	83.3% (5)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:07:00	100.0% (8)	83.3% (5)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:08:00	100.0% (8)	83.3% (5)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:09:00	100.0% (8)	100.0% (6)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:10:00	100.0% (8)	100.0% (6)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:11:00	100.0% (8)	100.0% (6)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:12:00	100.0% (8)	100.0% (6)	50.0% (1)	.0% (0)	0%
Travel (CAD) <= 00:13:00	100.0% (8)	100.0% (6)	100.0% (2)	.0% (0)	0%
Travel (CAD) <= 00:14:00	100.0% (8)	100.0% (6)	100.0% (2)	100.0% (1)	0%
Travel (CAD) <= 00:15:00	100.0% (8)	100.0% (6)	100.0% (2)	100.0% (1)	0%
Minutes to 90%	0:07:00	0:09:00	0:13:00	0:14:00	0:00:00
Minutes to 80%	0:06:00	0:06:00	0:13:00	0:14:00	0:00:00
9/1/2007 - 12/31/2009	Balance of Alarm				

A balance of alarm for hazardous materials response is met when the 4th responding unit arrives on scene. Only one response met the criteria for Balance of Alarm for rural hazardous materials from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.



Rural Wildland					
There are 30 Apparatus records being analyzed.					
One record was ignored as an outlier.					
Time Increment	1st Arrival	2nd Arrival	3rd Arrival	4th Arrival	5th Arrival
Travel (CAD) <= 00:00:00	.0% (0)	.0% (0)	.0% (0)	.0% (0)	.0% (0)
Travel (CAD) <= 00:01:00	14.3% (1)	.0% (0)	14.3% (1)	.0% (0)	.0% (0)
Travel (CAD) <= 00:02:00	28.6% (2)	.0% (0)	14.3% (1)	.0% (0)	.0% (0)
Travel (CAD) <= 00:03:00	42.9% (3)	.0% (0)	14.3% (1)	.0% (0)	.0% (0)
Travel (CAD) <= 00:04:00	42.9% (3)	.0% (0)	28.6% (2)	25.0% (1)	.0% (0)
Travel (CAD) <= 00:05:00	85.7% (6)	42.9% (3)	28.6% (2)	25.0% (1)	.0% (0)
Travel (CAD) <= 00:06:00	85.7% (6)	57.1% (4)	42.9% (3)	25.0% (1)	.0% (0)
Travel (CAD) <= 00:07:00	100.0% (7)	85.7% (6)	71.4% (5)	50.0% (2)	33.3% (1)
Travel (CAD) <= 00:08:00	100.0% (7)	85.7% (6)	71.4% (5)	50.0% (2)	33.3% (1)
Travel (CAD) <= 00:09:00	100.0% (7)	85.7% (6)	85.7% (6)	75.0% (3)	33.3% (1)
Travel (CAD) <= 00:10:00	100.0% (7)	100.0% (7)	85.7% (6)	75.0% (3)	66.7% (2)
Travel (CAD) <= 00:11:00	100.0% (7)	100.0% (7)	100.0% (7)	75.0% (3)	66.7% (2)
Travel (CAD) <= 00:12:00	100.0% (7)	100.0% (7)	100.0% (7)	100.0% (4)	66.7% (2)
Travel (CAD) <= 00:13:00	100.0% (7)	100.0% (7)	100.0% (7)	100.0% (4)	66.7% (2)
Travel (CAD) <= 00:14:00	100.0% (7)	100.0% (7)	100.0% (7)	100.0% (4)	66.7% (2)
Travel (CAD) <= 00:15:00	100.0% (7)	100.0% (7)	100.0% (7)	100.0% (4)	100.0% (3)
Minutes to 90%	0:07:00	0:10:00	0:11:00	0:12:00	0:15:00
Minutes to 80%	0:05:00	0:07:00	0:09:00	0:12:00	0:15:00
9/1/2007 - 12/31/2009 Balance of Alarm					

A balance of alarm for wildland fire response is met when the 4th responding unit arrives on scene. Only one response met the criteria for Balance of Alarm for rural wildland fire from 9/1/2007 through 12/31/2009, therefore the data is not significant enough to analyze.

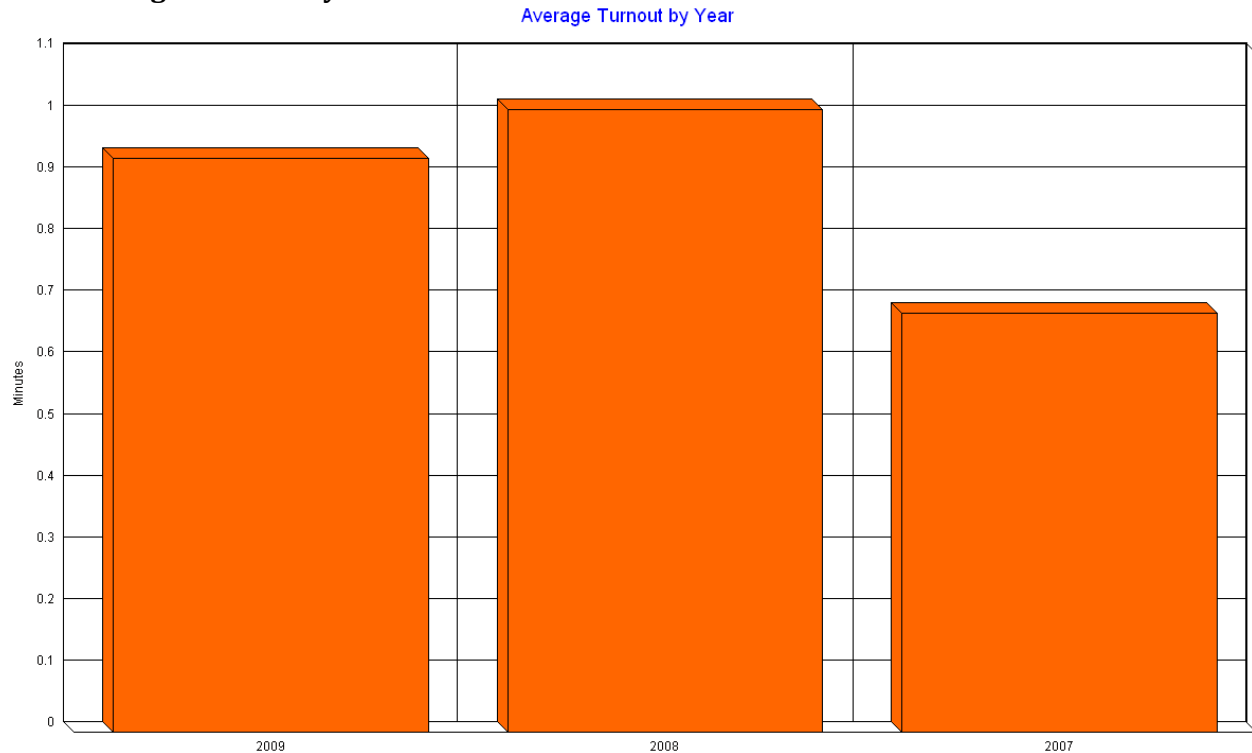
LAC is isolated from other communities and is characterized by unique finger like mesa tops that presents a unique response challenge as the end of these fingers or mesas can be reached on one way in, one way out roads. In other words, responders must go back on the same roads to get to a main road or artery to access another part of the city or LANL property. Incorporating the unique layout of the community and analysis of the data suggest that the Fire Department is achieving concentration of critical resources quickly and efficient.



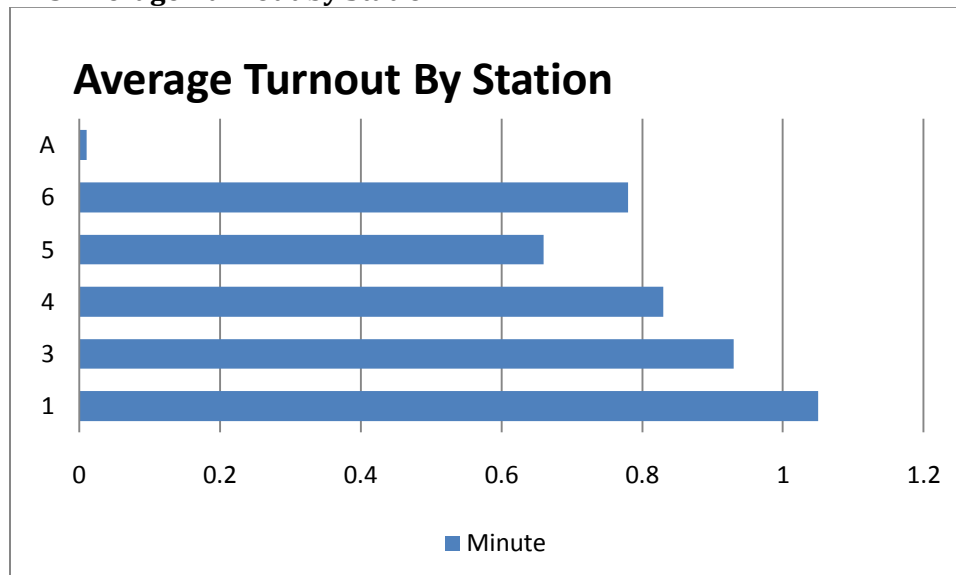
Turnout Time

The department turnout objective is 60 seconds. As a department we are able to meet this objective. This analysis has identified one station that needs improvement and the department will explore methods decrease turnout time.

E.14 Average Turnout by Year



E.15 Average Turnout by Station



Reliability

Reliability is the study of historical data to analyze the Fire Department's ability to meet performance expectations even if resources are committed on an existing call for service. Reliability analysis indicates how often a resource did not handle a call in its first due area. This analysis simply analyzes the occurrence of a resources inability to handle its first due calls for service.

To accomplish this analysis historical data is examined to analyze previous measure of performance, previous relocations of resources during multiple calls for service, and expectation for future needs. Station reliability was analyzed to determine how often no appropriate unit from a given station responded to a call in that station's first due area.

E.16 Statistics of Reliability for 2007

2007	%Reliable	Calls in 1st Due	Handled by 1st Due	Handled by Other
Station 1	91.60%	583	534	49
Station 3	99.16%	237	235	2
Station 4	97.08%	343	333	10
Station 5	90.61%	213	193	20
Station 6	95.12%	471	448	23
Total	94.37%	1847	1743	104

*note 8 calls were handled by Admin, no first due assignment

E.17 Statistics of Reliability for 2008

2008	%Reliable	Calls in 1st Due	Handled by 1st Due	Handled by Other
Station 1	91.51%	589	539	50
Station 3	97.02%	302	293	9
Station 4	97.47%	356	347	9
Station 5	92.86%	168	156	12
Station 6	96.82%	534	517	17
Total	95.02%	1949	1852	97

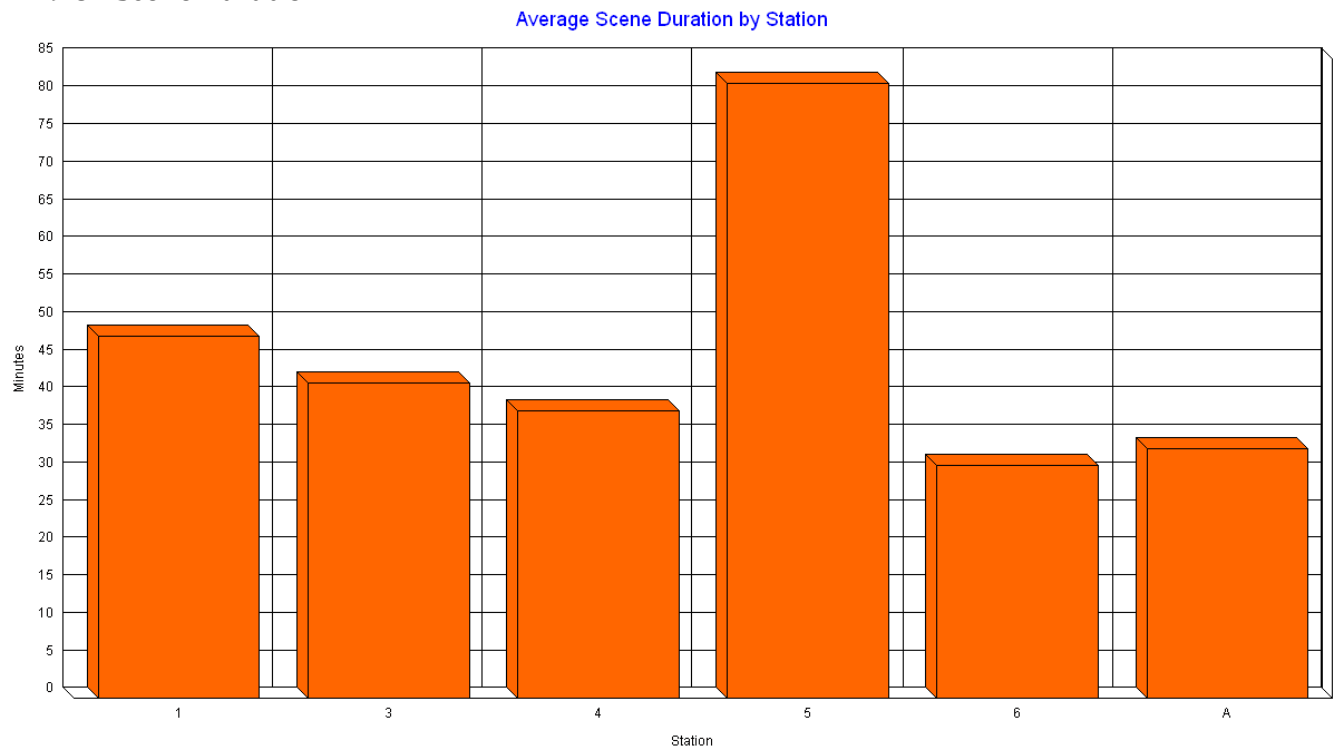
*note 1 call was handled by Admin, no first due assignment

E.18 Statistics of Reliability for 2009

2009	%Reliable	Calls in 1st Due	Handled by 1st Due	Handled by Other
Station 1	96.30%	486	468	18
Station 3	97.92%	337	330	7
Station 4	98.56%	348	343	5
Station 5	95.00%	180	171	9
Station 6	97.06%	613	595	18
Total	97.10%	1964	1907	57

*note 1 call was handled by Admin, no first due assignment



E.19 On Scene Duration

Note: Fire station 5 has a significantly longer scene duration average because of security and hazard standby time required for the majority of its first due districts.

Analyzing this data allows the Fire Department to analyze and revise response patterns, move up and cover plans, and staffing patterns to ensure maximum coverage levels are maintained during times of multiple calls for service. Again, this data indicates that the Department's call volume and reliability of resource is permitting the Department to deliver appropriate resources to incidents in a timely manner.

Call Processing

Frequent and/or recent upgrades in CAD have revealed inconsistencies in the call processing times and therefore we are unable to support the data with confidence. The department plans to review the data collection process and develop a solution that yields more accurate data.

F. Performance Objectives and Measurement

Performance Goal

LAFD will dedicate efforts to provide for the safety and welfare of the citizens and visitors of the community, DOE, and the LANL through the preservation of life, environment and property.

Performance Level Objectives outline the commitment of the Fire Department to meet pre-established objectives regarding the timeliness to specific risks. The objectives that follow are the result of thorough evaluation of our risks. For each risk we have analyzed our historical response to that risk, the outcome of the response, and the potential for future risk. Specific performance measures have been established based on our analysis and mission.

Benchmark Definition

A benchmark is defined as a standard from which something can be judged. Searching for the best practices will help define superior performance. This Standard of Coverage uses a combination of standards from NFPA, ISO, and DOE Orders determining the best practice for structure, rescue, wildland, hazardous materials and EMS response. These response resources are enhanced by prevention, mitigation, intervention, enforcement, education, and engineering. Some of these innovations include the department's Company Inspection Program, Pre-Incident Planning Program, Fire Prevention Team, and additional construction requirements for new construction projects.

Performance Objective: **Fire**

Performance Objective:

Arrive in a timely manner with sufficient resources to mitigate all fire incidents and to stop escalation of a fire when found. Typically, this means conducting a search for any victims, confining fire to the floor area of origin, plus limiting heat and smoke damage to the area of floor origin. The first arriving unit is capable of starting rescue work or advancing a first line for fire control. The second engine and truck company provide additional personnel for the task already started plus ventilation, salvage, and other work as necessary. The tasks of rapid intervention, rescue for trapped firefighters, property salvage, and crew rotation with rehabilitation requires additional personnel on a fire scene.

The Department has developed baseline and benchmark travel times objectives that conform to or exceed industry best practices.

Benchmark Fire Suppression Objective(s)

For 90% of suburban fire responses, the first due apparatus shall arrive within five minutes travel time.

The first due unit shall be capable of providing two staff, 600 gallons of water and 1500 gpm pumping capacity, advancing the first line for fire control or rescue and/or initiating command.



For 90% of rural fire responses, the first due apparatus shall arrive within six minutes travel time.

The first due unit shall be capable of providing two staff, 600 gallons of water and 1500 gpm pumping capacity, advancing the first line for fire control or rescue and/or initiating command.

For 90% of suburban fires, an effective response force (ERF) shall arrive within ten minutes travel time.

The ERF is capable of establishing command, uninterrupted water supply, advancing an attack line and backup line, forcible entry, utility control, victim search and rescue and ventilation.

For 90% of rural fires, an effective response force (ERF) shall arrive within 12 minutes travel time.

The ERF is capable of establishing command, uninterrupted water supply, advancing an attack line and backup line, forcible entry, utility control, victim search and rescue and ventilation.

Baseline Fire Suppression Objective(s)

Data analysis has indicated that the department meets its stated Standard of Cover baseline response objective(s) as follows:

For 90% of suburban suppression responses, the first-due apparatus shall arrive within six minutes travel time; the agency accomplished this 91.50% of the time.

The first due unit is capable of providing two staff, 600 gallons of water and 1500 gpm pumping capacity, advancing the first line for fire control or rescue and/or initiating command.

For 90% of rural suppression responses the first-due apparatus shall arrive within seven minutes travel time; the agency accomplished this 94.00% of the time.

The first due unit is capable of providing two staff, 600 gallons of water and 1500 gpm pumping capacity, advancing the first line for fire control or rescue and/or initiating command.

For 90% of suburban fires, an effective response force (ERF) shall arrive within 11 minutes travel time; the agency accomplished this 100% of the time.

The ERF is capable of establishing command, uninterrupted water supply, advancing an attack line and backup line, forcible entry, utility control, victim search and rescue and ventilation.

For 90% of rural fires, an effective response force (ERF) shall arrive within 14 minutes travel time; the agency accomplished this 100% of the time.

The ERF is capable of establishing command, uninterrupted water supply, advancing an attack line and backup line, forcible entry, utility control, victim search and rescue and ventilation.



(Note: The department has a very limited number of incidents where an effective response force has been deployed between 2007 and 2009; therefore the data is not significant enough to analyze.)

Baseline Performance Objective: Emergency Medical Service

Performance Objective: Arrive in a timely manner with sufficiently trained and equipped personnel to provide medical services for all emergency medical incidents; to assist and render aid to our customers who call us in a timely and efficient manner; to provide the best EMS care as allowed under the state scope of practice in the areas of EMT-Paramedic, EMT- Intermediate and EMT-Basic.

Benchmark EMS Objective(s)

For 90% of all suburban EMS Incidents, a basic life support force with AED capability shall arrive in five minutes or less travel time.

The first arriving unit shall be capable of providing basic life support and AED capability until the paramedic unit arrives on scene.

For 90% of all rural EMS Incidents, a basic life support force with AED capability shall arrive in six minutes or less travel time.

The first arriving unit shall be capable of providing basic life support and AED capability until the paramedic unit arrives on scene.

For 90% of suburban EMS calls where a paramedic is required, an effective response force (ERF) shall arrive within eight minutes travel time.

The ERF shall be capable of providing paramedic level advanced life support.

For 90% of rural EMS calls where a paramedic is required, an effective response force (ERF) shall arrive within ten minutes travel time.

The ERF shall be capable of providing paramedic level advanced life support.

Baseline EMS Objective(s)

It was verified that the department has met its stated standard of cover baseline response objective(s) as follows:

For 90% of all suburban EMS incidents, a basic life support force with AED capability shall arrive within six minutes travel time; the agency accomplished this 91.50% of the time.

The first arriving unit is capable of providing basic life support and AED capability until the paramedic unit arrives on scene.

For 90% of all rural EMS incidents, a basic life support force with AED capability shall arrive within seven minutes travel time; the agency the accomplished this 94.00% of the time.

The first arriving unit is capable of providing basic life support and AED capability until the paramedic unit arrives on scene.

For 90% of suburban EMS calls where a paramedic is required, an effective response force (ERF) shall arrive within nine minutes travel time; the department accomplished this 93% of the time.

The ERF is capable of providing paramedic level advanced life support.

For 90% of rural EMS calls where a paramedic is required, an effective response force (ERF) shall arrive within twelve minutes travel time; the department accomplished this 94.7% of the time.

The ERF is capable of providing paramedic level advanced life support.

Baseline Performance Objective: Hazardous Materials

Performance Objective: Respond to the incident in a timely manner within our current level of training, Operational Level. Even though we have some personnel trained to the Technician/Specialist level, we still respond as a Department at the Operational Level which is defensive. The first operational objective is to respond safely, slowly, and methodical to a hazardous material event. Upon arrival, we will set up command, stage at a safe location, isolate and deny entry, and make additional notifications for resources including LANL's Hazardous Material Team. We will perform additional defensive procedures to minimize damage to life, environment, and property including damming, diking, and diverting. We, also, will do hazard assessment and identification and develop an incident action plan. Upon their arrival, we may assist the LANL Hazardous Material Team with Incident Command, Medical Support, and Decontamination procedures.

Benchmark Hazardous Materials Objective(s)

For 90% of all suburban hazardous material incidents, the first due apparatus shall arrive within five minutes travel time.

The first-due apparatus is capable of assessing the situation to determine the presence of a potential hazardous material/explosive device; determine the need for additional resources, estimate the potential harm without intervention (utilizing resources such as ERG, FOG, etc.), begin establishing a hot, warm and cold zone and/or establishing Incident Command, incident in accordance with Fire Chief's Directive Division 400, Article 24.

For 90% of all rural hazardous material incidents, the first due apparatus shall arrive within six minutes total travel time.

The first-due apparatus is capable of assessing the situation to determine the presence of a potential hazardous material/explosive device; determine the need for additional resources, estimate the potential harm without intervention (utilizing resources such as ERG, FOG, etc.), begin establishing a hot, warm and cold zone and/or establishing Incident Command, incident in accordance with FCD Division 400, Article 24.

For 90% of suburban hazardous material incident, an effective response force (ERF) shall arrive within ten minutes travel time.

The ERF is capable of establishing command, rescue, emergency decontamination, containment, initiating protective action, in accordance with FCD Division 400, Article 24.



For 90% of rural hazardous material incident, an effective response force (ERF) shall arrive within twelve minutes travel time.

The ERF is capable of establishing command, rescue, emergency decontamination, containment, initiating protective action, in accordance with Fire Chief's Directive Division 400, Article 24.

(Note: The department has responded to less than 20 hazardous material incidents where an effective response force has been deployed between 2007 and 2009; therefore the data is not significant enough to analyze.)

Baseline Hazardous Materials Objective(s)

Data analysis has indicated that the department meets its stated Standard of Cover baseline response objective(s) as follows:

For 90% of all suburban hazardous material incidents, the first-due apparatus shall arrive within six minutes total; the department accomplished this 91.50% of the time.

The first-due apparatus is capable of assessing the situation to determine the presence of a potential hazardous material/explosive device; determine the need for additional resources, estimate the potential harm without intervention (utilizing resources such as ERG, FOG, etc.), begin establishing a hot, warm and cold zone and/or establishing Incident Command, incident in accordance with FCD Division 400, Article 24.

For 90% of all rural hazardous material incidents, the first-due apparatus shall arrive within seven minutes total; the department accomplished this 94.00% of the time.

The first-due apparatus is capable of assessing the situation to determine the presence of a potential hazardous material/explosive device; determine the need for additional resources, estimate the potential harm without intervention (utilizing resources such as ERG, FOG, etc.), begin establishing a hot, warm and cold zone and/or establishing Incident Command, incident in accordance with FCD Division 400, Article 24.

For 90% of suburban hazardous material incidents, an effective response force (ERF) shall arrive within eleven minutes travel time, the department accomplished this 100% of the time.

The ERF is capable of establishing command, rescue, emergency decontamination, containment, initiating protective action, in accordance with FCD Division 400, Article 24.

For 90% of rural hazardous material incident, an effective response force (ERF) shall arrive within fourteen minutes travel time, the department accomplished this 100% of the time.

The ERF is capable of establishing command, rescue, emergency decontamination, containment, initiating protective action, in accordance with Fire Chief's Directive Division 400 Article 24.

(Note: The department has a very limited number of incidents where an effective response force has been deployed between 2007 and 2009; therefore the data is not significant enough to analyze.)

Baseline Performance Objective: Rescue

Performance Objective: Arrive in a timely manner with sufficient resources to stabilize the situation and extricate the victim(s) from the emergency situation or location. Perform a high angle, confined space, trench, structural collapse, or vehicle extrication.

Benchmark Technical Rescue Objective(s)

For 90% of all suburban Technical Rescue incidents, the first due apparatus shall arrive within five minutes travel time.

The first-due apparatus is capable of assessing the situation, determine the need for additional resources, begin rescue efforts and/or establish IC.

For 90% of all rural Technical Rescue incidents, the first due apparatus shall arrive within six minutes travel time.

The first-due apparatus is capable of assessing the situation, determine the need for additional resources, begin rescue efforts and/or establish IC.

For 90% of suburban technical rescue incidents, the Effective Response Force (ERF) shall arrive within ten minutes travel time.

The ERF is capable of providing technical expertise, knowledge, skills, and abilities during technical rescue incidents in accordance with FCD Division 700, Article 2.

For 90% of rural technical rescue incidents, the Effective Response Force (ERF) shall arrive within twelve minutes travel time.

The ERF is capable of providing technical expertise, knowledge, skills, and abilities during technical rescue incidents in accordance with Fire Chief's Directive Division 700, Article 2.

Baseline Technical Rescue Objectives(s)

Data analysis has indicated that the department meets its stated Standard of Cover baseline response objective(s) as follows:

For 90% of all suburban Technical Rescue incidents, the first due apparatus shall arrive within six minutes travel time; the department accomplished this 91.50% of the time.

The first-due apparatus is capable of assessing the situation, determining the need for additional resources, beginning rescue efforts and/or establishing Incident Command.

For 90% of all rural Technical Rescue incidents, the first due apparatus shall arrive within seven minutes travel time; the department accomplished this 94.00% of the time.

The first-due apparatus is capable of assessing the situation, determining the need for additional resources, beginning rescue efforts and/or establishing Incident Command.

For 90% of suburban Technical Rescue incidents, the Effective Response Force (ERF) shall arrive within eleven minutes travel time; the department accomplished this 100% of the time.

The ERF is capable of providing technical expertise, knowledge, skills, and abilities during technical rescue incidents in accordance with FCD Division 700 Article 2.

For 90% of rural technical rescue incidents, the Effective Response Force (ERF) shall arrive within fourteen minutes travel time; the department accomplished this 100% of the time.

The ERF is capable of providing technical expertise, knowledge, skills, and abilities during technical rescue incidents in accordance with FCD Division 700 Article 2.

(Note: The department has a very limited number of incidents where an effective response force has been deployed between 2007 and 2009; therefore the data is not significant enough to analyze.)

Baseline Performance Objective: Wildland (within populated area of City)

Performance Objective: Arrive in a timely manner with sufficient resources to contain and/or extinguish a wildland or grass fire. Primary responsibility is protection of life including evacuation of residents from the fire area. Secondary to life, property protection is prioritized and finally suppression of the wildfire.

Benchmark Wildland Firefighting Objective(s)

For 90% of all suburban wildland fire related emergencies, the first-due apparatus shall arrive within five minutes travel time.

The first-due apparatus is capable of assessing the situation, request additional resources, constructing control lines, applying direct and indirect attacks and/or establish Incident Command.

For 90% of all rural wildland fire related emergencies, the first-due apparatus shall arrive within six minutes travel time.

The first-due apparatus is capable of assessing the situation, request additional resources, constructing control lines, applying direct and indirect attacks and/or establish Incident Command.

For 90% of suburban wildland fire related emergencies, the Effective Response Force (ERF) shall arrive within eleven minutes travel time.

The ERF is capable of providing additional fire suppression support.

For 90% of rural wildland fire related emergencies, the Effective Response Force (ERF) shall arrive within fourteen minutes travel time.

The ERF is capable of providing additional fire suppression support.

Baseline Wildland Firefighting Objective(s)

Data analysis has indicated that the department meets its stated Standard of Cover baseline response objective(s) as follows:

For 90% of all suburban wildland fire related emergencies, the first-due apparatus shall arrive within six minutes travel time; the department accomplished this 91.50% of the time.

The first-due apparatus is capable of assessing the situation, requesting additional resources, constructing control lines, applying direct and indirect attacks and/or establish Incident Command.

For 90% of all rural wildland fire related emergencies, the first-due apparatus shall arrive within seven minutes travel time; the department accomplished this 94.00% of the time.

The first-due apparatus is capable of assessing the situation, requesting additional resources, constructing control lines, applying direct and indirect attacks and/or establish Incident Command.

For 90% of suburban wildland fire related emergencies, the Effective Response Force (ERF) shall arrive within eleven minutes travel time; the department accomplished this 100% of the time.

The ERF is capable of providing additional fire suppression support.

For 90% of rural wildland fire related emergencies, the Effective Response Force (ERF) shall arrive within fourteen minutes travel time; the department accomplished this 100% of the time.

(Note: The department has a very limited number of incidents where an effective response force has been deployed between 2007 and 2009; therefore the data is not significant enough to analyze.)

Summary

Flat table topped hills (mesas) with steep sloped canyons in between characterize the topography. The topography of the city dictates that population centers are spread out and, accordingly, times to reach these population centers requires careful placement of emergency facilities. The unique layout of the finger-like mesa tops requires longer response times.

LANL is located in Los Alamos County. The approximately 40-square mile Laboratory site is situated on the Pajarito Plateau, which consists of a series of finger like mesas (ridges) separated by deep east to west oriented canyons cut by intermittent streams. Most Laboratory and community developments are confined to mesa tops. The Laboratory is divided into technical areas that are used for building sites, experimental areas, and waste management locations. The need for security and safety buffers because of the type of work performed causes longer travel times into Laboratory sites. The department will rewrite procedures for responses to secure laboratory sites so that security standby time can be separated from travel time. Training to this policy will also be required.



The Department has difficulty separating travel time and turn out time. Currently, operations personnel use portable radios to go en route causing travel time to be skewed. The Department has purchased I-mobile for all response units. I-mobile is a Computer Aided Dispatch component software that, along with training, will ask for operations personnel to use the apparatus on board computer to go en route. This will allow for the Department to better separate travel time from turn out time.

The Department, along with the LANL, has developed a Fire Station Replacement Study. In this report travel time issues and locations of replacement stations are discussed to reduce travel times. At the time this document is being written, location of fire stations has not been agreed upon.

The department has a very limited number of non EMS responses where a balance of full alarm (ERF) is filled. However, the analysis does show that the department is meeting it baseline objectives.



G. Compliance Methodology

Introduction

With the implementation of the SOC, the LAFD must have the ability to use various management information systems to track, review and identify areas for improvement. The SOC is a dynamic document which must be utilized to affirm the effectiveness and efficiency of the Department's response capabilities.

Strategic Initiatives and Goals

The Fire Chief has directed, as a part of the annual budget process, the Command Staff to review Strategic Initiatives and Goals established through the CFAI Self Assessment and Community Based Strategic Plan.

Operational Performance Review and Compliance Reporting

As a part of the quarterly ICMA benchmarking process, operational performance review and compliance reporting of critical tasks will be coordinated and managed by the Los Alamos Fire Department Command Staff.

The LAFD currently utilizes Firehouse Software for its records management system. The Department will aggressively pursue GIS interactions for the purpose of better utilizing the information in the Firehouse RMS and the pre-fire plan program.

A maintenance and compliance methodology system will include monthly reporting by each Division to the Management Analyst, Operations Analyst, and EMS Training Coordinator. Quarterly reporting of each performance goal stated within this Standard of Cover document will be provided to the Fire Chief and Command Staff.

The EMS Division completes annual reviews of EMS licensure requirements by individual to assure compliance with state requirements. All other areas of legal compliance are monitored by the EMS Assistant Chief, the EMS Battalion Chief, the EMS Training Coordinator and the LAFD Medical Director.

The Department has purchased Imobile, a Computer Aided Dispatch component software, for all response units. This component will enhance the department's ability to monitor time compliance.

To remain current with the CFAI Standards of Cover and Self Assessment requirements, the LAFD SOC Compliance Team will meet quarterly to review the data recorded above with the Fire Marshal leading this process.

Operational performance reviews are conducted through post incident analysis by Command Staff. Training and compliance reporting of critical tasks will be coordinated by the Battalion Chief of Training with the assistance of the Assistant Chief of Training, Deputy Chief, and the three shift Battalion Chiefs and Training Officers.

H. Overall Evaluation and Conclusion Recommendations

SOC Major Findings

1. LAC is land-locked and any future growth will be through in-fill using property transferred by the DOE to the County. Currently, this is forecasted to be less than two hundred acres and may not be transferred in the next five years.
2. Due to the nature of the topography within the County, response times will always be a challenge and the current County Fire Station locations are sufficient.
3. The location of the LANL Fire Stations will be decided through the Baseline Needs Assessment (BNA), station location studies, and finally by the NNSA Site Manager. In the current system, the funding for any new or replacement stations must be approved by the U.S. Congress.
4. Response times should be reduced through the use of on-board computers with Automatic Vehicle Locators and the addition of Imobile for dispatch to send the closest units.
5. The County must work closely with NNSA and LANL in addressing the recommendations made in the 2009 Baseline Needs Assessment.

Lessons Learned/Recommendations

1. Review and update the 300 Series of FCDs annually rather than every three years.
2. Development of an FCD for Wildland Fire Investigations
3. Development of an FCD for Fire Investigation Report Writing
4. Implement changes in data capture in Firehouse for more efficient querying.
5. Research the map module of Firehouse to assist with call plotting.
6. Explore ability to capture security and hazard standby time at LANL sites so they can be subtracted out of travel time. Provide training to crews on this process.
7. Fire Station locations are being researched to better improve travel times at LANL.
8. Implementation of Imobile CAD to better improve collection of travel time data.
9. Develop a HazMat Team within the next three to five years to respond to hazardous materials incidents at the technician level in a defensive mode.

SOC Conclusion

Through the CA, LAC receives financial support, equipment, services and the use of two fire stations to allow the LAFD to provide an enhanced level of fire service to the community and LANL. The current CA is for five years and started on September 1, 2008. In order to achieve a second Five Year Cooperative Agreement (CA) with NNSA, the County must be able to provide a Nuclear Grade Fire Department with the capabilities described in the CA. As the mission and environment of the Laboratory and their Fire Service Baseline Needs Assessment dictate, the introduction of new federally owned Fire Stations and additional



personnel and equipment will be modified. The County does not anticipate any significant growth within the County which would require the addition or relocation of existing County owned fire stations, or the addition of personnel, or equipment.

We will face the same economic challenges as the rest of the nation. Since 75% of our funding is through federal allocation, we must be prepared to adapt if funding is reduced. This could adversely affect the ability to replace existing apparatus. With this in mind, the LAFD Compliance Committee must meet quarterly to review any new risks and to review response data with the goal of improving Fire Department services and response times. The LAFD Senior Command Staff must use the Strategic Plan as a working document, and annually measure the progress of the goals and objectives, and reset as needed future goals and objectives.



I. Definitions, Acronyms, and Appendices

Definitions

For the purposes of the Standard of Cover, the following terms have the meanings set forth below:

RISKS

High Hazard Facility: Facilities that present a substantial risk of life loss, a severe financial impact to the community or region, or unusual potential damage to property in the event of a fire (i.e. Nuclear facilities, High Explosives facilities, Schools, Infrastructure, Shopping Areas)

Special Risk: Areas which require a first due response over and above that appropriate to the risk which predominates the surrounding area, without regard to structural configuration (i.e. High-Rise, Hospitals, Nursing Homes, Jails)

High Risk: Those risks which represent a substantial threat to life safety, loss of economic value to the community or NNSA as a whole, or large loss in damage to property in the event of fire (i.e. Areas with multiple high hazard or special risk facilities or large concentrations of multiple family dwellings).

Medium Risk: Those risks which represent a life threat limited to the occupants of a single occupancy or where concentrations of property are of limited extent. Most communities fall within this risk category.

Low Risk: Those risks which represent almost no life threat and are expected to be of limited loss in property and economic value.

TIME

Alarm Time: The time in which the realization of an existing emergency is transmitted to the appropriate agency.

Turnout Time: The time beginning when units acknowledge notification of the emergency to the beginning point of response time.

Response Time: The time that begins when units are en route to the emergency incident and ends when units arrive at the scene.

On-Scene Time: The time point at which responding units arrive at the emergency scene.

Access Time: The time that begins at the end of response time, when response time ends at a staging area or security barrier as opposed to the actual location of the emergency, and ends when units arrive at the emergency location. It is affected by current Homeland Security status, type of facility being accessed and clearance level of responders.

RESPONSE TYPES/SCHEDULE

- Normal Traffic:** A response to a call for service wherein the responders drive no faster than the posted speed limit, obey all traffic laws, and are without the benefit of lights and sirens.
- Emergency Traffic:** An emergency response to a service call in a manner that enables the responders to arrive on scene as quickly and safely as possible, utilizing warning lights and sirens. An emergency response mandates that responders operate with DUE REGARD for the safety of fire personnel and the public.
- First Alarm:** If there is known smoke or fire or if there is a high life hazard, a first alarm response includes a second Engine and a second Medic Unit.
- Second Alarm:** Provides up to 2 additional engines and other equipment as events warrant, *i.e. CAF Tender for exposure control.*
- Third Alarm:** All available units respond. Call back system is activated to staff as appropriate to the situation. The “Fire Tac” is established. All reserve apparatus are manned.

MISCELLANEOUS

- Company:** A group of members operating with one piece of fire apparatus (engine, ladder truck, elevating platform, quint, rescue, squad, ambulance) except where multiple apparatus are assigned that are dispatched and arrive together, continuously operate together, and are managed by a single company officer...¹
- EMT-B:** Emergency Medical Technician Basic-State of New Mexico
- EMT-I:** Emergency Medical Technician Intermediate-State of New Mexico
- EMT-P:** Emergency Medical Technician Paramedic-State of New Mexico (referred to simply as “Paramedic” for the remainder of this document)
- BNA:** Los Alamos National Laboratory (LANL) worked with Los Alamos Site Office (LASO) to address concerns to create a Baseline Needs Assessment (BNA) consistent with the applicable DOE Order and associated Implementation Guide.
- Emergency Incident:** Specific emergency operation.²
- Emergency Operations:** Activities of the fire department relating to rescue, fire suppression, emergency medical care, and special operations including response to the scene of the incident and all functions performed at the scene.³

¹ NFPA 1710 section 3.3 Definitions-“Company”

² NFPA 1710 section 3.3 Definitions-“Emergency Incident”

³ NFPA 1710 section 3.3 Definitions-“Emergency Operations”



IRIC: Two members of the initial attack crew who are assigned for rapid deployment to rescue lost or trapped members.⁴

Incident Commander: The fire department member in overall command of an emergency incident.⁵

Acronyms and Abbreviations

AHJ	Authority Having Jurisdiction
BNA	Baseline Needs Assessment
CA	Cooperative Agreement
CAD	Computer Aided Dispatch
CDC	Consolidated Dispatch Center
CFR	Code of Federal Regulations
CPSE	Center for Public Safety Excellence, Inc.
DOE	Department of Energy
EMS	Emergency Medical Services
EMT-B/I/P	Emergency Medical Technician Basic/Intermediate/Paramedic
FCD	Fire Chief's Directive
HIPAA	Health Insurance Portability and Accountability Act
ICMA	International City/County Management Association
LAC	Los Alamos County
LAFD	Los Alamos County Fire Department
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC
LASO	Los Alamos Site Office (NNSA)
MDC	Mobile Data Computer
NMAC	New Mexico Administrative Code
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NNSA	National Nuclear Security Administration
OSHA	Occupational Safety and Health Administration
OMB	Office of Management and Budget
PCCA	Pre-Contract Cost Agreement
PRC	Public Regulation Commission
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure

⁴ NFPA 1710 section 3.3 Definitions-"Initial Rapid Intervention Crew (IRIC)"

⁵ NFPA 1710 section 3.3 Definitions-"Incident Commander"



Appendix - School Overview

Elementary Schools Grades Kindergarten through Sixth

Aspen Elementary, located at 3182 33rd Street, is a partially sprinklered facility with a fire alarm panel. The school has an enrollment of 330 children with 17 teachers. The facility is approximately 20,000 square feet and is classified as a limited combustible one story with arch roofs. There are two fire hydrants within 100 yards of the facility. Fire extinguishers are located throughout the facility. The main fire hazard is a kiln located in the arts and crafts room 142. Only new portions of the school have a sprinkler system in place. The front of the facility is well accessible with a fire road located on the south side of the school grounds.

Barranca Elementary, located at 57 Loma De Escolar, does not have a sprinkler system in place but does have a fire alarm panel. The school has an enrollment of 395 students with 19 teachers. The facility is approximately 55,387 square feet and is classified as limited combustible with a flat roof. There are three fire hydrants on the school campus all within 100 yards of the facility. Fire extinguishers are located throughout the facility. No major fire hazards are located at the facility and all fire roads are maintained.

Chamisa Elementary is located at 301 Meadow Lane in White Rock, NM. The facility is not sprinklered but does have a fire alarm panel. The school has an enrollment of 250 students and 14 teachers. The facility is approximately 48,000 square feet and is classified as a limited combustible, single level with a flat roof. Two fire hydrants are located on the north side of the facility within 100 yards of the main building. Fire extinguishers are located throughout the facility. No major fire hazards are located at the facility and all fire roads are maintained.

Mountain Elementary is located at 2280 North Road. The gymnasium and building 100 are the only sprinklered buildings and the facility is fire alarmed. The school has an enrollment of 390 students and 20 teachers. The facility is approximately 30,000 square feet and is classified as limited combustible with a flat roof. Two fire hydrants are located within 100 yards of the facility with one on the west side and the other of the north side. Fire extinguishers are located throughout the facility. Fire hazard at the facility is a kiln located in room 402. Access roads in and around the campus are well maintained.

Pinon Elementary is located at 90 Grand Canyon in White Rock. The facility is not sprinklered but does have a fire alarm system in place. The school has an enrollment of 359 students and 18 teachers. The facility is approximately 57,535 square feet and is classified as a limited combustible, single story building with a flat roof. Two fire hydrants are located on facility grounds within 100 yards with one located 275 feet south of the facility and the other located within 100 yards on the north side. Fire extinguishers are located throughout the facility. All grounds and fire roads are well maintained with fire department personnel having keys to all locked gates.

Middle Schools Grades 7th and 8th

Los Alamos Middle School is located at 2101 Hawk Drive. The facility is partially sprinklered and does have a fire alarm system in place. The school has an enrollment of 538 students and 46 teachers. The facility is approximately 95,563 square feet and is classified as a limited combustible single story with a butterfly/flat roof. There are three fire hydrants located on campus within 100 yards with the locations being the southeast side, southwest side, and northwest side to the facility. A kiln is located in room 320 and an electrical transformer is located in the center of the school's main courtyard. Fire extinguishers are located throughout the facility. The school campus also has access roads around the facility that are well maintained.

High School Grades 9th through 12th

Los Alamos High School is located at 1300 Diamond. The facility is partially sprinklered and does have a fire alarm system in place. The school has an enrollment of 1,127 students and 106 teacher and licensed staff. The facility is approximately 300,000 square feet and is classified as a limited combustible with a flat/arched roof. There are some two story buildings as well as some sublevels. There are seven hydrants located on campus with the auditorium sprinklered. Fire extinguishers are located throughout the facility. This facility requires a two engine, one ladder truck, two med units, as well as, a rescue unit and Battalion Chief due to the high occupancy. Access around the facility is well maintained with all fire lanes marked. A Los Alamos Police Officer is assigned to the school grounds as well as two security guards.

The Los Alamos School district has evacuation plans on file, as well as, fire drills which are practice monthly. Lock down procedures for such emergencies as bomb threats have been addressed. The schools have all prepared for the urban interface issues since the threat of the Cerro Grande Fire of May of 2000. All trees, shrubs, and wild plant life have been reduced. Fire roads are wide enough and are able to support all Los Alamos Fire Department vehicles, with the exception of CFR-6.

Fire department personnel are well trained in the procedure for a fire emergency at the schools. Garden lays, as well as, forward and reverse lays are practice regularly for the best method suited for fighting fires in the different schools and buildings. All buildings on the school grounds are clearly marked. Pre-incident plans are updated yearly as well as building inspections. Fire alarm systems (monitoring company is Amcest Corporation which is located 1017 Walnut Street, Roselle New Jersey 07203 Ph# 800-631-7370) do monitor pull stations, heat detectors, smoke detectors, tamper switches on KNOX boxes, and flow switches on sprinkler systems.

Due to fire hydrants located on the school grounds, there will always be an ample supply of water for any fire emergency. All fire lanes on school grounds are well marked and strictly enforced.

All new building plans and permits must go through the Fire Marshalls office for prior approval in order to meet the requirements listed in the building life safety codes.

Chemical storage lockers are inventoried on a regular basis and only school staff has access to chemicals. All safety requirements are followed when the use of chemicals is allowed. Los Alamos High School has the highest number of chemicals on school grounds.

Arts and crafts building do have a kiln which is well labeled on all pre-incident plans, as well as, the records which show when the unit is used.

With a total of almost 3,500 students in attendance in the county of Los Alamos, as well as 720 students enrolled at the University of New Mexico Los Alamos branch, the Los Alamos Fire Department is well educated with any risk or dangers located on school grounds. With the practice of monthly fire drills and the use of accountability, the department will know if the facility was fully evacuated. Although there is a lack of a full functioning sprinkler system at the public schools, the department is well within quick response range of any of the facilities.

The department continues to address any issues that may arise for any emergency on school grounds.

Appendix – Apparatus Images



Figure 10-11, Truck-1 Bronto 118-Sky-lift (left); and Engine-3 75 ft Aerial Apparatus (right) [Ref 3]



Figure 10-12, Engine-4 50 ft Aerial Apparatus (left) and Engine-40 Pumper (right) [Ref 3]

Included in the fire apparatus purchases were; the “Bronto” 118 foot articulating platform (*Truck-1 Bronto 118’ Sky-Lift*), and a 75 foot aerial apparatus (Engine-3) shown in Figure 11-11, as well as, *Engine-4 50’ Aerial Apparatus*, and five engines similar to the Engine 40 pumper illustrated in Figure 10-12.



Figure 10-13, Mini-tender-4 CAF Truck (left) and CAF Tender-2(right) **[Ref 3]**

Included in the wildland support fire apparatus purchases were: five mini-tender Compressed Air Foam (CAF) trucks, and six CAF Tenders similar to those shown in Figure 10-13.

EMS and rescue support purchases included: four ambulances and three technical rescue vehicles similar to those shown in Figure 11-14.



Figure 10-14, Medic-4 Ambulance (left) and TRT-1 Technical Rescue Truck (right) **[Ref 3]**

Specialized apparatus that are no longer part of the vehicle fleet maintained by the Laboratory include an Aircraft Rescue and Firefighting unit. Since the airport is no longer a DOE asset, the Aircraft Rescue unit is no longer required by the Laboratory for emergency mitigation.

Some utility vehicle purchases and leased vehicles through the General Services Administration (GSA) are also included in the cooperative agreement along with specific rescue equipment. These include: an infrared camera, imaging detectors, defibrillators, lifts, foam generators, pumps, air compressors, trailers (see Figure 10-15) and all terrain vehicles. All are considered essential to equipping and enabling the fire department to provide an effective emergency response to a myriad of credible events.



Figure 10-15 Los Alamos Fire Department Equipment Trailer (left), Support Vehicle (right) [Ref 3]





Appendix - Risk Hazard by Districts

D.2 Risk Hazard by District 1-4

Name	District	Address	Risk Hazard
First United Methodist Church	1-4	0715 Diamond DR	Very High
Duane Smith Auditorium	1-4	1300 Diamond DR	Very High
Los Alamos High School	1-4	1300 Diamond DR	Very High
Los Alamos School's L Wing	1-4	3540 Orange ST	Very High
Los Alamos School's LTS / Computer	1-4	3540 Orange ST	Very High
UNM - LA Building 1, 2, & 3	1-4	4000 University DR	Very High
UNM - LA Buildings 4, 5, & 6	1-4	4000 University DR	Very High
UNM-LANL's part of Bldg 6 (TA-00-1197)	1-4	4000 University DR /Room 613	Very High
Dr. Krohn's Office	1-4	3917 West RD /Suite 136	Very High
LAMC ER Physicians	1-4	3917 West RD /ER	Very High
Los Alamos Medical Center	1-4	3917 West RD	Very High
Metzgers Mobil Gas Station	1-4	1399 Diamond DR	High
Pajarito Environmental Education Center	1-4	3540 Orange ST	High
Hot Rocks Java Cafe	1-4	4200 West Jemez/ 501 RD	High
Bikram Yoga School of India	1-4	1183 Diamond DR /Suite C	Moderate
LA Sports	1-4	1183 Diamond DR	Moderate
Pregnancy Clinic	1-4	1183 Diamond DR /Suite B	Moderate
Comcast Cable	1-4	1225 Diamond DR	Moderate
Fire Safety Services	1-4	4469 Fairway DR /B	Moderate
Ark Child Development Center	1-4	0715 Diamond DR	Low
Anderson Pharmacy	1-4	1377 Diamond DR	Low

D.2 Risk Hazard by District 1-5

Name	District	Address	Risk Hazard
Accelerator Building Sector A	1-5	0003A TA 53	Very High
Accelerator Building Sector B	1-5	0003B TA 53	Very High
Accelerator Building Sector E	1-5	0003E TA 53	Very High
Accelerator Building Sector F	1-5	0003F TA 53	Very High
Accelerator Building Sector H	1-5	0003H TA 53	Very High
Accelerator Building Sector J	1-5	0003J TA 53	Very High
Accelerator Building Sector M	1-5	0003M TA 53	Very High
Accelerator Building Sector N	1-5	0003N TA 53	Very High
Accelerator Building Sector P	1-5	0003P TA 53	Very High
Accelerator Building Sector G	1-5	0003G TA 53	Very High
Accelerator Building Sector C	1-5	0003C TA 53	Very High
Accelerator Building Sector D	1-5	0003D TA 53	Very High
Administration Building	1-5	0001 TA 55	Very High
Advanced Analytical Development Facility	1-5	0028 TA 48	Very High
Advanced Computer Lab	1-5	2011 TA 03	Very High
Beryllium Technology Facility	1-5	0141 TA 03	Very High
Bio Safety Lab	1-5	1076 TA 03	Very High
Calcuim Building	1-5	0007 TA 55	Very High
CINT	1-5	1420 TA 03	Very High
CMR Wing 1	1-5	0029 TA 03	Very High
CMR Wing 2	1-5	0029 TA 03	Very High
CMR Wing 3	1-5	0029 TA 03	Very High
CMR Wing 4	1-5	0029 TA 03	Very High
CMR Wing 5	1-5	0029 TA 03	Very High
CMR Wing 7	1-5	0029 TA 03	Very High
CMR Wing 9	1-5	0029 TA 03	Very High



CMR-ADMIN	1-5	0029 TA 03	Very High
CRPF Power Supply Bldg	1-5	0294 TA 35	Very High
Lab Data Communication Center	1-5	1498 TA 03	Very High
Laboratory Bldg	1-5	0001 TA 48	Very High
Laser Induced Chemistry Lab	1-5	0158 TA 46	Very High
Liquid & Compressed Gas Facility	1-5	0170 TA 03	Very High
Materials Science Lab	1-5	1698 TA 03	Very High
National Security Science Bldg - NSSB	1-5	1400 TA 03	Very High
Neutron Experiment Service Bldg.	1-5	0364 TA 53	Very High
NISC	1-5	2322 TA 03	Very High
Office	1-5	0250 TA 60	Very High
Office Building	1-5	1409 TA 03	Very High
Office Building	1-5	0020 TA 55	Very High
Otowi Building	1-5	0261 TA 03	Very High
Physics Building	1-5	0040 TA 03	Very High
Plutonium Building	1-5	0004 TA 55	Very High
Proton Storage Ring Equipment Building	1-5	0028 TA 53	Very High
Proton Storage Ring Facility	1-5	0008 TA 53	Very High
Radiation Lab Utilities & Office Bldg.	1-5	0400 TA 55	Very High
Radioactive Liquid Waste (RLW) Facility	1-5	0001 TA 50	Very High
Ramrod Facility	1-5	0037 TA 50	Very High
Royal Crest Mobile Home Park	1-5	2025 SR 501 (East Jemez) RD	Very High
Sigma Building	1-5	0066 TA 03	Very High
Special Materials Processing	1-5	0102 TA 03	Very High
Strategic Computer Complex	1-5	2327 TA 03	Very High
Support Building	1-5	0003 TA 55	Very High
Test Fabrication	1-5	0017 TA 60	Very High
Test Fabrication	1-5	0019 TA 60	Very High
Test Lab #2 (Gas Shock Tube)	1-5	0031 TA 46	Very High
Tru Holding Shed	1-5	0008 TA 54	Very High
Tru-waste Drum Preparation Dome	1-5	0033 TA 54	Very High
Uranium Storage Facility	1-5	0164 TA 03	Very High
Waste Characterization, Reduction, & Rep	1-5	0069 TA 50	Very High
WNR Building	1-5	0007 TA 53	Very High
Accelerator Building Sector R	1-5	0003R TA 53	High
Accelerator Building Sector S	1-5	0003S TA 53	High
Accelerator Tech Lab	1-5	0014 TA 53	High
Accelerator Tech Lab	1-5	0019 TA 53	High
Accelerator Tech Office Building	1-5	0006 TA 53	High
Advanced Computing Lab	1-5	0200 TA 03	High
Analytical Chemistry Lab	1-5	0250 TA 46	High
Anteres Target Hall	1-5	0124 TA 35	High
Biotechnical Laboratory	1-5	0085 TA 35	High
C. Utility Building	1-5	0440 TA 55	High
Central Guard Facility	1-5	0001 TA 64	High
Chemistry Mass Spectmry Bldg	1-5	0045 TA 48	High
CMRR Project Construction Trailer LANL	1-5	9001 TA 50	High
CMRR Project Office Trailer Austin	1-5	9000 TA 50	High
CNLS Tech Research Bldg	1-5	1690 TA 03	High
CO2 Laser Facility	1-5	0086 TA 35	High
Computational Physics Building	1-5	0508 TA 03	High
Computer Facility (CCF)	1-5	0132 TA 03	High
Craft Shops	1-5	0003 TA 63	High

CRPF Generator Building	1-5	0301 TA 35	High
Cryogenics Building "B"	1-5	0034 TA 03	High
D-Division Office Bldg. (DDOB)	1-5	1405 TA 03	High
Detector Shed	1-5	0035 TA 53	High
Doublewide Office Trailer	1-5	1651 TA 03	High
Drum Storage Building	1-5	0185 TA 55	High
Electron Pototype Lab	1-5	0253 TA 03	High
Electronics Laboratory	1-5	0030 TA 46	High
Equipment Bldg.	1-5	0420 TA 46	High
Equipment Shop	1-5	0001 TA 60	High
Exp Material Science Lab	1-5	1819 TA 03	High
Experimental Support	1-5	0207 TA 35	High
Field Operations Storage Bldg.	1-5	0064 TA 64	High
FITS Office Building	1-5	0066 TA 55	High
General Warehouse	1-5	0030 TA 03	High
Generator Building	1-5	0008 TA 55	High
GTA Laboratory	1-5	0018 TA 53	High
High Voltage Development Lab	1-5	0188 TA 35	High
High Voltage Test Facility	1-5	0316 TA 03	High
ICONS Lab	1-5	0088 TA 46	High
KSL Facility	1-5	0038 TA 03	High
KSL Warehouse	1-5	0002 TA 60	High
Lab and Office Bldg	1-5	0087 TA 35	High
Lab and Office Building	1-5	0024 TA 46	High
Lab/Office Building	1-5	0042 TA 46	High
Laboratory & Office Bldg	1-5	0002 TA 35	High
Laboratory Building	1-5	0004 TA 41	High
LANSCE Office Building	1-5	0622 TA 53	High
Laser Isotope Support	1-5	0041 TA 46	High
LASO	1-5	1410 TA 03	High
LEDH Demonstration	1-5	0365 TA 53	High
Los Alamos Research Park	1-5	4200 TA 03	High
Medical Facility	1-5	1411 TA 03	High
Medium Energy Physics Building	1-5	0001 TA 46	High
Modular Office Bldg.	1-5	0406 TA 03	High
Modular Office Bldg.	1-5	0119 TA 46	High
Modular Office Bldg.	1-5	0120 TA 46	High
Nuclear Materials Building	1-5	0028 TA 55	High
Nuclear Safeguards Lab	1-5	0027 TA 35	High
Occupational Health Lab	1-5	0001 TA 59	High
Office Building	1-5	1415 TA 03	High
Office Building	1-5	0125 TA 35	High
Office Building	1-5	0003 TA 59	High
Office Building	1-5	0111 TA 63	High
Office Trailer scheduled for DND	1-5	0045 TA 64	High
Office/Lab Trailer	1-5	2008 TA 03	High
Office/Shop Building	1-5	1437 TA 03	High
Operations Building	1-5	0004 TA 53	High
Oppenheimer Study Center	1-5	0207 TA 03	High
Pajarito Mountain Cafe	1-5	0397 Camp May RD	High
Pajarito Mountain Ski Area	1-5	0379 Camp May RD	High
Parking Structure	1-5	4100 TA 03	High
Physical Chemistry Lab	1-5	0154 TA 46	High



Physics Analytical Center	1-5	0215 TA 03	High
Physics/Laser Building	1-5	0128 TA 35	High
Polymer and Coating Lab	1-5	0455 TA 35	High
Process Support Facility	1-5	0042 TA 55	High
Proton Storage Ring Stage Bldg.	1-5	0017 TA 53	High
Prototype Fabrication Bldg.	1-5	0077 TA 46	High
Pulse Power Research Facility	1-5	0421 TA 35	High
Qwest	1-5	0175 TA 60	High
Records Center	1-5	0121 TA 63	High
Reduction Support	1-5	0412 TA 54	High
Research/Development Laboratory/Office	1-5	0001 TA 52	High
Source Storage Building	1-5	0065 TA 03	High
Space Science Laboratory	1-5	0502 TA 03	High
Steam Plant	1-5	0022 TA 03	High
Support Office Building	1-5	0002 TA 55	High
Syllac Lab and Office Building	1-5	0287 TA 03	High
Target Fabrication Bldg	1-5	0213 TA 35	High
Tech Shop	1-5	0039 TA 03	High
Tension Support Dome	1-5	0282 TA 54	High
Tension Support Dome	1-5	0375 TA 54	High
Tension Support Dome	1-5	0043 TA 64	High
Theoretical Office Building	1-5	0123 TA 03	High
Thorium Bunker	1-5	0159 TA 03	High
Trailer	1-5	0093 TA 63	High
Transportable	1-5	0456 TA 03	High
Transportable	1-5	0468 TA 03	High
Transportable	1-5	0470 TA 03	High
Transportable	1-5	0474 TA 03	High
Transportable	1-5	0495 TA 03	High
Transportable	1-5	0496 TA 03	High
Transportable	1-5	1353 TA 03	High
Transportable	1-5	0214 TA 48	High
Transportable (5Plex)	1-5	0577 TA 46	High
Transportable 6-Plex	1-5	0578 TA 46	High
Transportable Modular Office	1-5	0114 TA 63	High
Transportable Office Building	1-5	0254 TA 35	High
Transportable Office Building	1-5	0253 TA 35	High
Transportable Office Building	1-5	0026 TA 48	High
Transportable Office Building	1-5	0027 TA 48	High
Transportable Office Building	1-5	0033 TA 48	High
Transportable Office Building	1-5	0208 TA 48	High
Transportable Office Building	1-5	0234 TA 48	High
Transportable Office Building	1-5	0235 TA 48	High
Transportable SCC Project Offices	1-5	0213 TA 48	High
Utility Building	1-5	0006 TA 55	High
Warehouse	1-5	0005 TA 55	High
Weapons Test Support	1-5	0216 TA 03	High
Zebra Bldg	1-5	0029 TA 35	High
Accelerator Maintenance B	1-5	0025 TA 53	Moderate
Access Bldg	1-5	0126 TA 35	Moderate
Administration Office Building DND	1-5	0043 TA 03	Moderate
APT Project Office/ NPB Tech Support	1-5	0031 TA 53	Moderate
ATAC Office Building	1-5	0001 TA 66	Moderate

Beta Decay Bldg	1-5	0034 TA 35	Moderate
Calibration Building	1-5	0130 TA 03	Moderate
Central Alarm Station	1-5	0440 TA 03	Moderate
CMRR Contractor's Trailer	1-5	9002 TA 50	Moderate
Cold Support Office Building	1-5	0114 TA 55	Moderate
CTR for Material Science	1-5	0032 TA 03	Moderate
Data Analysis Facility	1-5	0024 TA 53	Moderate
Doublewide Trailer	1-5	0246 TA 54	Moderate
Educational Support Building	1-5	0039 TA 55	Moderate
Engineering Lab	1-5	0025 TA 46	Moderate
Environmental Science Lab	1-5	0012 TA 51	Moderate
ESH Transportable Office	1-5	2003 TA 03	Moderate
Fire Station # 1	1-5	0041 TA 03	Moderate
Fuel Cells Labs	1-5	0016 TA 46	Moderate
Generator Support Building	1-5	0047 TA 55	Moderate
Geochemical Analytical Facility	1-5	0494 TA 03	Moderate
Graphic Floor Storage Building	1-5	0317 TA 03	Moderate
Group Office	1-5	0080 TA 51	Moderate
Group Office	1-5	0082 TA 51	Moderate
Hazmat Materials Response Team Facility	1-5	0039 TA 64	Moderate
Haz-Storage Shed	1-5	0073 TA 51	Moderate
Health Physics	1-5	2009 TA 03	Moderate
Health Physics	1-5	2010 TA 03	Moderate
Health Physics Measurement	1-5	2007 TA 03	Moderate
Health Physics Transportable	1-5	2006 TA 03	Moderate
Ion Beam Facility	1-5	0016 TA 03	Moderate
Isotope Production Facility	1-5	0984 TA 53	Moderate
Isotope Separator Bldg.	1-5	0008 TA 48	Moderate
Lab Maintenance/Shop/Stock	1-5	0037 TA 03	Moderate
Laboratory and Office	1-5	0001 TA 53	Moderate
LANSE	1-5	0022 TA 53	Moderate
Laser Lab	1-5	0059 TA 46	Moderate
Laser Lab	1-5	0076 TA 46	Moderate
LCDD Dispatch Facility	1-5	0091 TA 60	Moderate
Library & Maintenance	1-5	0023 TA 51	Moderate
Los Alamos Co. Landfill Transfer Station	1-5	3701 SR 501 (East Jemez) RD	Moderate
Los Alamos County Landfill Admin Bldg	1-5	3701 SR 501 (East Jemez) RD	Moderate
Los Alamos County Old Landfill Office	1-5	3701 SR 501 (East Jemez) RD	Moderate
Los Alamos Transit Mix Co.	1-5	3075 SR 501 (East Jemez) RD	Moderate
Machine Shop	1-5	0025 TA 35	Moderate
Machine Shop	1-5	0054 TA 50	Moderate
Maintenance (Office /Shop Use)	1-5	0001 TA 63	Moderate
Maintenance Building	1-5	0333 TA 46	Moderate
Mechanical Assembly	1-5	0011 TA 52	Moderate
Medium Energy Physics Building	1-5	0218 TA 03	Moderate
Mixed Waste Sampling Pad	1-5	0036 TA 54	Moderate
Modular Office Building	1-5	0391 TA 03	Moderate
MRS Counting House	1-5	0315 TA 53	Moderate
Neutron Scat. Exp. Hall	1-5	0030 TA 53	Moderate
Nitric Acid Tank on Pad	1-5	0127 TA 55	Moderate
NMR Spectroscopy Lab	1-5	0562 TA 03	Moderate
Office	1-5	0462 TA 03	Moderate
Office	1-5	0472 TA 03	Moderate

Office	1-5	0025 TA 51	Moderate
Office Bldg	1-5	0032 TA 59	Moderate
Office Bldg	1-5	0029 TA 59	Moderate
Office Bldg	1-5	0035 TA 59	Moderate
Office Bldg	1-5	0036 TA 59	Moderate
Office Bldg	1-5	0037 TA 59	Moderate
Office Bldg	1-5	0053 TA 59	Moderate
Office Bldg	1-5	0097 TA 59	Moderate
Office Bldg	1-5	0030 TA 59	Moderate
Office Bldg	1-5	0031 TA 59	Moderate
Office Bldg	1-5	0033 TA 59	Moderate
Office Bldg	1-5	0034 TA 59	Moderate
Office Building	1-5	0028 TA 03	Moderate
Office Building	1-5	0332 TA 03	Moderate
Office Building	1-5	0410 TA 03	Moderate
Office Building	1-5	0422 TA 03	Moderate
Office Building	1-5	0451 TA 03	Moderate
Office Building	1-5	0068 TA 35	Moderate
Office Building	1-5	0127 TA 35	Moderate
Office Building	1-5	0186 TA 35	Moderate
Office Building	1-5	0255 TA 35	Moderate
Office Building	1-5	0057 TA 48	Moderate
Office Building	1-5	0154 TA 48	Moderate
Office Building	1-5	0042 TA 52	Moderate
Office Building	1-5	0396 TA 53	Moderate
Office Building	1-5	0397 TA 53	Moderate
Office Building	1-5	0398 TA 53	Moderate
Office Building	1-5	0053 TA 63	Moderate
Office Complex	1-5	0046 TA 48	Moderate
Office Complex	1-5	0047 TA 48	Moderate
Office ESH	1-5	2005 TA 03	Moderate
Office Trailer	1-5	0196 TA 50	Moderate
Office Trailer	1-5	0245 TA 54	Moderate
Office Trailer	1-5	0247 TA 54	Moderate
Office Trailer	1-5	0290 TA 54	Moderate
Office Trailer	1-5	0118 TA 59	Moderate
Office Trailer	1-5	0119 TA 59	Moderate
Office Trailer	1-5	0054 TA 63	Moderate
Office-ESH	1-5	2004 TA 03	Moderate
Offices	1-5	0011 TA 54	Moderate
Office Trailer	1-5	0052 TA 63	Moderate
Optics Evaluation Lab	1-5	0189 TA 35	Moderate
Parking Structure	1-5	1402 TA 03	Moderate
Photo Lab	1-5	0510 TA 03	Moderate
Plutonium Facility Access Center	1-5	0264 TA 55	Moderate
Press Building	1-5	0035 TA 03	Moderate
Pump House	1-5	0088 TA 35	Moderate
Pump House	1-5	0010 TA 55	Moderate
Pump Station	1-5	0011 TA 55	Moderate
Qwest Building	1-5	0184 TA 50	Moderate
Radio Shop	1-5	0245 TA 60	Moderate
RANT Office Building	1-5	0034 TA 54	Moderate
Reactor Component Bldg	1-5	0046 TA 35	Moderate

RLW Process Equipment Building	1-5	0945 TA 53	Moderate
Sample Management Facility	1-5	0271 TA 03	Moderate
Service Control Building	1-5	0046 TA 05	Moderate
Shop and Storage Building	1-5	0039 TA 53	Moderate
Shops and Labs	1-5	0058 TA 46	Moderate
Storage Area	1-5	0075 TA 46	Moderate
Storage Bldg.	1-5	0067 TA 64	Moderate
Storage Bldg.	1-5	0068 TA 64	Moderate
Storage Building	1-5	2206 TA 03	Moderate
Storage Building	1-5	0939 TA 53	Moderate
Storage Shed	1-5	0189 TA 50	Moderate
Supply Building	1-5	0322 TA 03	Moderate
Surveillance Control	1-5	0142 TA 55	Moderate
Technical Support	1-5	0326 TA 46	Moderate
Technical Support Bldg	1-5	0524 TA 03	Moderate
Tension Support Dome	1-5	0244 TA 54	Moderate
Tension Support Dome	1-5	0268 TA 55	Moderate
Tension Support Dome	1-5	0085 TA 60	Moderate
Theoretical Division	1-5	0480 TA 03	Moderate
Trailer	1-5	1762 TA 03	Moderate
Trailer	1-5	0210 TA 54	Moderate
Trailer	1-5	0002 TA 63	Moderate
Trailer	1-5	0004 TA 63	Moderate
Trailer Office	1-5	0471 TA 03	Moderate
Trailer Office	1-5	0149 TA 48	Moderate
Transportable	1-5	0473 TA 03	Moderate
Transportable	1-5	0513 TA 03	Moderate
Transportable	1-5	0514 TA 03	Moderate
Transportable	1-5	0546 TA 03	Moderate
Transportable	1-5	1616 TA 03	Moderate
Transportable	1-5	0200 TA 46	Moderate
Transportable	1-5	0535 TA 46	Moderate
Transportable	1-5	0029 TA 48	Moderate
Transportable	1-5	0034 TA 48	Moderate
Transportable	1-5	0056 TA 48	Moderate
Transportable	1-5	0203 TA 48	Moderate
Transportable	1-5	0081 TA 51	Moderate
Transportable	1-5	0409 TA 53	Moderate
Transportable	1-5	0022 TA 54	Moderate
Transportable	1-5	0096 TA 59	Moderate
Transportable S-4	1-5	0512 TA 03	Moderate
Transportable Office	1-5	0460 TA 03	Moderate
Transportable Office	1-5	0461 TA 03	Moderate
Transportable Office	1-5	0463 TA 03	Moderate
Transportable Office	1-5	0467 TA 03	Moderate
Transportable Office	1-5	0469 TA 03	Moderate
Transportable Office	1-5	1559 TA 03	Moderate
Transportable Office IRM-CAS	1-5	1566 TA 03	Moderate
Transportable Offices	1-5	1617 TA 03	Moderate
University House	1-5	0443 TA 03	Moderate
Utilities and Infrastructure	1-5	0481 TA 03	Moderate
Utilities Control Center	1-5	0223 TA 03	Moderate
Utilities Mapping/Locating Bldg.	1-5	0390 TA 03	Moderate

Warehouse	1-5	0169 TA 03	Moderate
Warehouse	1-5	0067 TA 35	Moderate
Warehouse	1-5	0016 TA 53	Moderate
Warehouse LANL	1-5	0142 TA 03	Moderate
Weapon Support Office	1-5	0033 TA 52	Moderate
Weapons Analytical Facility	1-5	0107 TA 48	Moderate
Wellness Center	1-5	1663 TA 03	Moderate
WNR Lab Support	1-5	0015 TA 53	Moderate
X-Ray Machine Lab	1-5	2002 TA 03	Moderate
Office	1-5	0026 TA 51	Low
Office Building	1-5	0313 TA 55	Low
Transportable	1-5	1887 TA 03	Low
Transportable	1-5	1888 TA 03	Low
Transportable	1-5	2393 TA 03	Low
Transportable Office	1-5	0027 TA 51	Low
Transportainer	1-5	9000 TA 48	Low

D.2 Risk Hazard by District 1-6

Name	District	Address	Risk Hazard
Immaculate Heart of Mary Church	1-6	3700 Canyon RD	1
Aspen Apartments	1-6	3590 Gold ST	1
Co Zi Manor Apartments 1	1-6	3706 Gold ST	1
Co Zi Manor Apartments 2	1-6	3789 Gold ST	1
Health Research Lab	1-6	0001 TA 43	1
Trinity On the Hill	1-6	3900 Trinity DR	1
Mesa School Complex	1-6	1247 40TH ST	2
Mosher Retail Complex	1-6	1183 Diamond DR /Ste A - D	2
Sunrise Bakery And Pizzeria	1-6	1377 Diamond DR	2
Gold Street Apartments	1-6	3711 Gold ST	2
Equipment Test Laboratory	1-6	0002 TA 53	2
Timber Ridge Apartments	1-6	3055 Timber Ridge RD	2
Alpine Laser Dental	1-6	3491 Trinity DR /Suite A	2
Care First	1-6	3491 Trinity DR /Suite D	2
Acupuncture Clinic - Los Alamos	1-6	3500 Trinity DR /Suite 3	2
Childrens' Clinic, PA	1-6	0128 West RD	2
Sullivan Field	1-6	0949 Diamond DR	3
Los Alamos County Scale House	1-6	3701 SR 501 (East Jemez) RD	3
Warehouse	1-6	0012 TA 43	3
Transportable	1-6	0020 TA 43	3
Los Alamos Site Office - Unoccupied	1-6	0039 TA 43	3
HRL Transportable Office	1-6	0045 TA 43	3
Unoccupied	1-6	3491 Trinity DR /Suite A	3
Unoccupied	1-6	3500 Trinity DR	3
Ice Skating Rink	1-6	4475 West RD	3
H & P INC.	1-6	3500 Trinity DR /Suite A-4	4
Joseph Mathews-DDS	1-6	3500 Trinity DR /Suite 2	4
Trinity Plaza Electrolysis	1-6	3500 Trinity DR /Suite A	4
Cardiac Care	1-6	3917 West RD /Suite 125	4
Children's Clinic	1-6	3917 West RD /Suite 126, 128	4
Corazon Del Oso	1-6	3917 West RD /Suite 138	4
Dr. Sauer's Office	1-6	3917 West RD /Suite 135	4
Los Alamos Medical Care Clinic - LAMCC	1-6	3917 West RD /Suite 150	4
Los Alamos Surgical Assoc. - Orthopedics	1-6	3917 West RD /Suite 139	4



Los Alamos Surgical Associates - Surgery	1-6	3917 West RD /Suite 200	4
Los Alamos Women's Health Services PC	1-6	3917 West RD /Suite 250	4
Medical Associates of Northern New Mex.	1-6	3917 West RD /Suite A, B, C	4
New Mexico Heart Institute - Unoccupied	1-6	3917 West RD /Suite 100	4
Rheumatology Internal Medicine-Dr. Smith	1-6	3917 West RD /Suite D	4

D.2 Risk Hazard by District 3-1

Name	District	Address	Risk Hazard
Bryce Avenue Presbyterian Church	3-1	0333 Bryce AVE	1
Church of the Nazarene	3-1	0015 Grand Canyon DR	1
Los Alamos Schools Pinon Elementary	3-1	0090 Grand Canyon DR	1
The Church of Jesus Christ of Latter-Day	3-1	0366 Grand Canyon DR	1
White Rock Baptist Church	3-1	0080 La Paloma DR	1
Bilingual Montessori School	3-1	0111 Longview DR /Suite 8	1
Messiah Evangelical Lutheran Church	3-1	0172 Meadow LANE	1
St. Joseph's Catholic Church	3-1	0196 Meadow LANE	1
Los Alamos Schools Chamisa	3-1	0301 Meadow LANE	1
Horizons Day Care - UMC	3-1	0580 Meadow LANE	1
WR United Methodist Church	3-1	0580 Meadow LANE	1
ES&H Training Center/Reasmaq Building	3-1	0035 Rover BLVD	1
Sage Cottage Montessori School	3-1	0070 Rover BLVD	1
Ponderosa Montessori	3-1	0304 Rover BLVD	1
White Rock Presbyterian Church	3-1	0310 Rover BLVD	1
Ponderosa Montessori	3-1	302 Rover BLVD	1
Smiths Supermarket White Rock	3-1	0031 Sherwood BLVD	1
Baptist Church	3-1	0080 State Road 4	1
Los Alamos Hampton Inn & Suites	3-1	0124 State Road 4	1
Metzger's True Value/Mobile Gas Station	3-1	0128 State Road 4	1
White Rock Phillips 66	3-1	0135 State Road 4	1
Critical Assembly Bldg - Casa 1	3-1	0023 TA 18	1
Critical Assembly Bldg. - Kiva 2	3-1	0032 TA 18	1
Control Building - Firing Site	3-1	0003 TA 36	1
Calibration Building	3-1	0214 TA 36	1
Firing Chamber #1	3-1	0006 TA 39	1
Marcon Construction	3-1	0035 Bonnie View DR /Suite B	2
White Rock Ship It	3-1	0035 Bonnie View DR /Suite A	2
Wishart Chiropractic Center	3-1	0035 Bonnie View DR /Suite C	2
Wishart Chiropractic Complex Ste A,B,&C	3-1	0035 Bonnie View DR	2
Oasis for Skin & Nails	3-1	0434 Brighton DR	2
US Post Office - White Rock	3-1	0101 Longview DR	2
Dr. Ellen Ballard DDS	3-1	0111 Longview DR /Suite B-3	2
G & M Electric	3-1	0111 Longview DR /Suite B-1	2
Vibe Hair and Nail Studio	3-1	0116 Longview DR	2
Chinshan Oriental Restaurant	3-1	0124 Longview DR	2
Cece's Gardens	3-1	0126 Longview DR	2
Mountain West Dev Co LLC	3-1	0132 Longview DR	2
WR Library	3-1	0133 Longview DR	2
White Rock Municipal Complex	3-1	0133 Longview DR	2
White Rock Senior Center	3-1	0137 Longview DR	2
Pajarito B & B	3-1	0157 Monte Rey DR	2
Sewer Treatment Plant Buildings	3-1	0000 Overlook Pk	2
Del Norte Credit Union (WR) Suite T	3-1	0035 Rover BLVD /Suite T	2
Adept Science and Tech.	3-1	0051 Rover BLVD	2
Herman's Automotive Repair	3-1	0051 Rover BLVD	2



PTLA Training Center	3-1	0063 Rover BLVD	2
White Rock Youth Activity Center	3-1	0010 Sherwood BLVD	2
Bandelier Grill	3-1	0011 Sherwood BLVD	2
Esquire Barber/ W.R. Beauty Salon	3-1	0013 Sherwood BLVD /Suite B	2
Jemez House Thrift Shop	3-1	0013 Sherwood BLVD	2
Pandy's Quilt Store	3-1	0013 Sherwood BLVD	2
Salazar Plaza	3-1	0013 Sherwood BLVD	2
Home Run Pizza	3-1	0118 State Road 4	2
Storage Building	3-1	0119 TA 18	2
Warehouse	3-1	0138 TA 18	2
Security Assessment Building	3-1	0189 TA 18	2
Warehouse/Light Electronics Laboratory	3-1	0025 TA 33	2
Well Logging Support Building	3-1	0113 TA 33	2
Laboratory & Office Building	3-1	0114 TA 33	2
Control Building	3-1	0178 TA 33	2
HE Prep Building	3-1	0078 TA 36	2
Canyon Vista Pool Association	3-1	0361 Aragon AVE	3
Pizza Hut *****Closed*****	3-1	0025 Bonnie View DR	3
White Rock Veterinary Clinic	3-1	0030 Bonnie View DR	3
Pinon Park Pool	3-1	0104 Bryce AVE	3
Back Porch Bed & Breakfast	3-1	0013 Karen CIR	3
Longview Self Storage	3-1	0105 Longview DR	3
Gartz, Heisch, and Roberts; DDS	3-1	0106 Longview DR	3
Coffee Quest B-4 ***CLOSED***	3-1	0111 Longview DR /Suite B-4	3
Dance Arts Los Alamos	3-1	0111 Longview DR /Suite B-5	3
Business Complex (WR)	3-1	0112 Longview DR	3
Isotag Technology	3-1	0113 Longview DR	3
Applied Computing Systems ***CLOSED***	3-1	0120 Longview DR	3
Katherine's Restaurant- **** CLOSED****	3-1	0121 Longview DR	3
C.J. Enterprises *** CLOSED***	3-1	0128 Longview DR	3
Treatment Plant - Garage	3-1	0002 Overlook Pk	3
Pajarito Greenhouse	3-1	0238 Rio Bravo DR	3
Conoco Quick Stop	3-1	0011 Rover BLVD	3
LAMC White Rock Pharmacy Unoccupied	3-1	0035 Rover BLVD /Suite B	3
The Plus Group	3-1	0035 Rover BLVD /Suite S	3
Tourist Information Center	3-1	0035 Rover BLVD /Suite D	3
White Rock Commercial Center - WRCC	3-1	0035 Rover BLVD	3
White Rock Self Storage	3-1	0035 Rover BLVD	3
Los Alamos National Bank (White Rock)	3-1	0077 Rover BLVD	3
Fire Station # 3	3-1	0129 State Road 4	3
Staging Area	3-1	0001 TA 18	3
Hillside Vault - Pajarito Site	3-1	0026 TA 18	3
Warehouse	3-1	0028 TA 18	3
Critical Experiment Facility DND	3-1	0030 TA 18	3
Utility Bldg	3-1	0031 TA 18	3
Critical Assembly Bldg Kiva 3 DND	3-1	0116 TA 18	3
Storage Building	3-1	0122 TA 18	3
Hillside Vault	3-1	0126 TA 18	3
Office and Lab Space	3-1	0127 TA 18	3
Assembly Building	3-1	0129 TA 18	3
Ultra Sonic Cleaning Building	3-1	0141 TA 18	3
Office Bldg	3-1	0147 TA 18	3
Sheba Critical Facility	3-1	0168 TA 18	3
Accelerator Development Lab	3-1	0227 TA 18	3
Sound shed	3-1	0247 TA 18	3



Transportainer	3-1	0248 TA 18	3
Lab	3-1	0256 TA 18	3
Trailer	3-1	0257 TA 18	3
Office Trailer	3-1	0258 TA 18	3
Lab and Office	3-1	0019 TA 33	3
Laboratory	3-1	0020 TA 33	3
Lab/Office Building	3-1	0001 TA 36	3
Firing Site Control Building	3-1	0006 TA 36	3
Lower Slobov. Control Building	3-1	0012 TA 36	3
Storage Building	3-1	0046 TA 36	3
Storage Shed	3-1	0047 TA 36	3
Lab/Exercise Facility	3-1	0048 TA 36	3
Storage Shed	3-1	0053 TA 36	3
ATAC Ballistics Test	3-1	0086 TA 36	3
Shop ***DND***	3-1	0104 TA 36	3
Storage Building	3-1	0062 TA 39	3
Gas Gun Support Bldg	3-1	0089 TA 39	3
Pulsed Power Building	3-1	0111 TA 39	3
Storage	3-1	0142 TA 39	3
Margos Bavarian B & B	3-1	0104 Monte Rey DR	
Casa Del Rey B&B	3-1	0305 Rover BLVD	4
Green Wheels	3-1	0107 Sierra Vista DR	4
New Mexico Environmental Building	3-1	0134 State Road 4 /Suite 4	4
Training Center Complex	3-1	0134 State Road 4	4

D.2 Risk Hazard by District 3-5E

Name	District	Address	Risk Hazard
Transportable Office	3-5E	0280 TA 33	High
Laboratory & Office Building	3-5E	0002 TA 39	Moderate
Applied Physics Bldg	3-5E	0098 TA 39	Moderate

D.2 Risk Hazard by District 3-6

Name	District	Address	Risk Hazard
Bilingual Montessori School	3-6	0115 Longview DR	Moderate
ESH Training Center Building	3-6	0134 State Road 4 /Suite P	Low
Office Building A (ESH-17)	3-6	0134 State Road 4	Low
Office Building B (ESH17)	3-6	0134 State Road 4	Low

D.2 Risk Hazard by District 4-1

Name	District	Address	Risk Hazard
Los Alamos Schools Aspen Elementary	4-1	2182 33RD ST	Very High
First Baptist Church of LA	4-1	2200 Diamond DR	Very High
Church of Christ	4-1	2323 Diamond DR	Very High
Los Alamos Middle School	4-1	2101 Hawk DR	Very High
Los Alamos Schools Barranca Mesa	4-1	0057 Loma del Escolar	Very High
Los Alamos Schools Mountain Elementary	4-1	2280 North RD	Very High
Bethlehem Lutheran Church	4-1	2390 North RD	Very High
Pajarito Complex	4-1	3476 Arizona AVE	High
Conoco Quick Stop	4-1	3701 Arkansas AVE	High
North Community Shopping Center	4-1	3801 Arkansas AVE	High
Los Alamos Sales Co. AKA The Black Hole	4-1	4015 Arkansas AVE	High
Los Alamos Bus System	4-1	4017 Arkansas AVE	High
Los Alamos Schools Pueblo Complex	4-1	1900 Diamond DR	High
LAC Golf Course Clubhouse/Pro-shop	4-1	4250 Diamond DR	High



LAC Golf Course-Maintenance Shop	4-1	4280 Diamond DR	High
Quemazon Montessori School	4-1	4600 Esperanza	High
Quemazon Montessori School Annex	4-1	4600 Esperanza	High
Barranca Mesa Pool	4-1	0067 Loma Del Escolar	High
Adobe Pines B&B	4-1	2101 Loma Linda DR	High
North Road Bed & Breakfast	4-1	2127 North RD	High
Los Alamos School of Gymnastics	4-1	0555 North Mesa RD	High
Calvary Christian School	4-1	0580 North Mesa RD	High
The Decadent Table	4-1	4710 Quemazon RD	High
Los Alamos Sportsmen's Club	4-1	0154 Rendija RD	High
Little Forest Playschool	4-1	3880 Villa ST	High
Kingdom Hall	4-1	4542 Yucca ST	High
Red Barn Screen Prints	4-1	2269 35TH ST	Moderate
LAC Golf Course - Cart Shed	4-1	4250 Diamond DR	Moderate
Fire Station # 4	4-1	4401 Diamond DR	Moderate
Posse Shack	4-1	0650 North Mesa RD	Moderate
Rebound Physical Therapy	4-1	4717 Quemazon RD	Moderate
Mountain Vista Apartments	4-1	0600 San Ildefonso RD	Moderate
Casa Mesita Group Home	4-1	4007 Sycamore ST	Moderate
Bob's Bodacious BBQ	4-1	3801 Arkansas AVE /Suite G	Low
Cafe Sushi	4-1	3801 Arkansas AVE /Suite C	Low
Chair Works/ Dunn Quilting	4-1	3801 Arkansas AVE /Suite A	Low
Film Festival at Home	4-1	3801 Arkansas AVE /Suite D	Low
Images Fine Hair Design	4-1	3801 Arkansas AVE /Suite E	Low
Papa Murphy's	4-1	3801 Arkansas AVE /Suite B	Low
Transformations	4-1	3801 Arkansas AVE /Suite F	Low
Morning Glory Baking Company	4-1	1377 Diamond DR /Suite 1	Low
Los Alamos Schools Credit Union	4-1	1900 Diamond DR	Low
Years Younger Beauty Salon	4-1	2101 Loma Linda DR	Low
Kiwanis Club Fireworks ***Residence***	4-1	1490 Los Pueblos	Low
Renata's Bed & Breakfast	4-1	3496 Orange ST	Low
Los Alamos County Golf Course - Resident	4-1	0081 San Ildefonso RD	Low
Los Alamos County Golf Course - Resid	4-1	0091 San Ildefonso RD	Low
Pueblo Canyon Inn & Gallery	4-1	0199 San Ildefonso RD	Low
La Mesa Mobile Home Park	4-1	0945 San Ildefonso RD	Low
Los Alamos Lock & Key	4-1	4051 Sycamore ST	Low
Southwest Public Relations Associates	4-1	3210 Walnut ST	Low

D.2 Risk Hazard by District 5-1

Name	District	Address	Risk Hazard
Warehouse	5-1	0124 TA 06	Very High
Switch House	5-1	0125 TA 06	Very High
Nondestructive Testing - X Ray Bldg.	5-1	0022 TA 08	Very High
Betatron Bldg	5-1	0023 TA 08	Very High
Lab & Office Bldg./ DX-2	5-1	0021 TA 09	Very High
Lab Office Bldg	5-1	0032 TA 09	Very High
Laboratory Building	5-1	0033 TA 09	Very High
Multidiagnostic Hydrotest Facility	5-1	0306 TA 15	Very High
DARHT	5-1	0312 TA 15	Very High
Radiographic Support Lab	5-1	0313 TA 15	Very High
DARHT Vessel Preparation	5-1	0534 TA 15	Very High
Low Energy X-Ray Cali. Lab.	5-1	0564 TA 15	Very High
WETF - Tritium Processing Facility	5-1	0205 TA 16	Very High
Package Testing Facility	5-1	0207 TA 16	Very High
Process Machining Building	5-1	0260 TA 16	Very High



HE Rest House	5-1	0261 TA 16	Very High
HE Rest House	5-1	0263 TA 16	Very High
HE Assembly/Rest House	5-1	0265 TA 16	Very High
HE Rest House	5-1	0267 TA 16	Very High
Assembly Building	5-1	0410 TA 16	Very High
Assembly Bldg. Rest House	5-1	0411 TA 16	Very High
WETF - Process Bldg	5-1	0450 TA 16	Very High
Lab Building	5-1	0460 TA 16	Very High
Shop Building	5-1	0052 TA 22	Very High
Detonator Support Bldg	5-1	0091 TA 22	Very High
High Explosive Wing	5-1	0093 TA 22	Very High
High Power Detonator Facility	5-1	0115 TA 22	Very High
Day Room/Laboratory	5-1	0115 TA 49	Very High
Bandelier Nat. Monument Visitor's Center	5-1	State Road 4	Very High
Bandelier National Monument	5-1	State Road 4	Very High
Bandelier National Monument Agoyo One	5-1	State Road 4	Very High
EOC	5-1	0033 TA 69	Very High
Lab/Office Bldg.	5-1	0070 TA 08	High
Office Building	5-1	0020 TA 09	High
Process Laboratory	5-1	0034 TA 09	High
Process Laboratory	5-1	0037 TA 09	High
Process Laboratory	5-1	0038 TA 09	High
Process Laboratory	5-1	0045 TA 09	High
Storage Building	5-1	0046 TA 09	High
Receiving and Shipping Building	5-1	0050 TA 09	High
Transportable	5-1	0272 TA 09	High
Transportainer	5-1	0273 TA 09	High
Office/Shop Bldg.	5-1	0024 TA 11	High
Laboratory and Office Building	5-1	0183 TA 15	High
Confinement and Test Facility	5-1	0285 TA 15	High
Trailer	5-1	0447 TA 15	High
Lab Building	5-1	0456 TA 15	High
Semi-Trailer	5-1	0465 TA 15	High
Trailer	5-1	0468 TA 15	High
Carpenter Shop	5-1	0563 TA 15	High
Grinding Bldg.	5-1	0054 TA 16	High
Cafeteria	5-1	0192 TA 16	High
Administration Building	5-1	0200 TA 16	High
Shops Building	5-1	0202 TA 16	High
Lumber Storage	5-1	0203 TA 16	High
Program Support Facility	5-1	0204 TA 16	High
Communications Bldg	5-1	0218 TA 16	High
Coffee House	5-1	0286 TA 16	High
Transportable	5-1	0897 TA 16	High
Transportable	5-1	0900 TA 16	High
Office Building	5-1	0933 TA 16	High
Weapons Plant Support Facility	5-1	0969 TA 16	High
Storage Shed	5-1	1459 TA 16	High
Storage Shed	5-1	1464 TA 16	High
Administration Bldg	5-1	0090 TA 22	High
MAGAZINES Bunkers 9-22	5-1	09-22 TA 22	High
Office Building	5-1	0001 TA 40	High
Firing Point	5-1	0008 TA 40	High



Cable Assembly	5-1	0023 TA 40	High
Laboratory Building	5-1	0041 TA 40	High
Transportainer	5-1	0090 TA 40	High
HDT Training Facility	5-1	0113 TA 49	High
Explosives Magazine	5-1	0114 TA 49	High
Lab and Office Bldg	5-1	0021 TA 08	Moderate
Storage/Salvage Bldg.	5-1	0026 TA 08	Moderate
Utility Building	5-1	0030 TA 08	Moderate
Accident Response Bldg	5-1	0120 TA 08	Moderate
Shop Bldg	5-1	0028 TA 09	Moderate
Stock and Equipment Building	5-1	0029 TA 09	Moderate
Machine Building	5-1	0048 TA 09	Moderate
Shop Building	5-1	0214 TA 09	Moderate
Control Building	5-1	0004 TA 11	Moderate
Vibration Test Building	5-1	0030 TA 11	Moderate
Explosives Prep Bldg	5-1	0030 TA 14	Moderate
Control Bldg./Bullet Test Facility	5-1	0034 TA 14	Moderate
Q Site Storage/ Processing Bldg	5-1	0043 TA 14	Moderate
Phermex Chamber	5-1	0184 TA 15	Moderate
Pherx	5-1	0185 TA 15	Moderate
Bunker/office	5-1	0186 TA 15	Moderate
X-Ray Casette Assembly Area	5-1	0233 TA 15	Moderate
Detector Diode Prep Lab.	5-1	0280 TA 15	Moderate
Multidiag Operation DND	5-1	0310 TA 15	Moderate
Firing Access Control Facility	5-1	0446 TA 15	Moderate
Hydrodynamic Test Ops. Center	5-1	0484 TA 15	Moderate
Applod Research & Electrical	5-1	0494 TA 15	Moderate
Office Building	5-1	0016 TA 16	Moderate
Fire Station # 5	5-1	0180 TA 16	Moderate
Change House	5-1	0193 TA 16	Moderate
Office Building	5-1	0242 TA 16	Moderate
Office Building	5-1	0244 TA 16	Moderate
Office Building	5-1	0245 TA 16	Moderate
Inspection Building	5-1	0280 TA 16	Moderate
Museum	5-1	0283 TA 16	Moderate
Equipment Storage	5-1	0285 TA 16	Moderate
ESA-FM	5-1	0300 TA 16	Moderate
Rest house	5-1	0301 TA 16	Moderate
Training Facility	5-1	0302 TA 16	Moderate
Plastics Building	5-1	0304 TA 16	Moderate
Plastics Building	5-1	0305 TA 16	Moderate
Plastics Building	5-1	0306 TA 16	Moderate
Plastics Building	5-1	0307 TA 16	Moderate
Office	5-1	0319 TA 16	Moderate
Modular Office	5-1	0328 TA 16	Moderate
WETF	5-1	0329 TA 16	Moderate
Process Equipment Storage Building	5-1	0332 TA 16	Moderate
Storage Building	5-1	0360 TA 16	Moderate
Rover Trailer DND	5-1	0367 TA 16	Moderate
Ammunition Storage	5-1	0380 TA 16	Moderate
Rest House	5-1	0413 TA 16	Moderate
Rest House	5-1	0414 TA 16	Moderate
Rest House	5-1	0415 TA 16	Moderate



HE Pressing Building DND	5-1	0430 TA 16	Moderate
Rest House	5-1	0435 TA 16	Moderate
Rest House	5-1	0437 TA 16	Moderate
Trailer DND	5-1	0659 TA 16	Moderate
Doublewide Trailer ***DND	5-1	0661 TA 16	Moderate
WETF Office Building	5-1	0824 TA 16	Moderate
Transportable DND	5-1	0901 TA 16	Moderate
Modular Office/Student Offices	5-1	0946 TA 16	Moderate
Steam Plant # 1	5-1	1480 TA 16	Moderate
Garage Facility	5-1	1507 TA 16	Moderate
Storage Building **DND**	5-1	0001 TA 22	Moderate
Warehouse & Plastic Shop	5-1	0005 TA 22	Moderate
Magazines	5-1	0007 TA 22	Moderate
Process Building	5-1	0008 TA 22	Moderate
Laboratory Building	5-1	0034 TA 22	Moderate
Storage Building	5-1	0110 TA 22	Moderate
Hydrotest Design Facility	5-1	0120 TA 22	Moderate
Control Building (Vacant)	5-1	0055 TA 36	Moderate
Firing Point	5-1	0005 TA 40	Moderate
Firing Point	5-1	0009 TA 40	Moderate
Preparation Utility Bldg.	5-1	0011 TA 40	Moderate
Firing Point	5-1	0012 TA 40	Moderate
Firing Point	5-1	0015 TA 40	Moderate
Storage Facility	5-1	0565 TA 15	Low

D.2 Risk Hazard by District 5-3E

Name	District	Address	Risk hazard
Trim Building	5-3E	0004 TA 39	High
Casa de Luz Apartments II	5-3E	0801 07TH ST	Moderate
Warehouse	5-3E	0039 TA 33	Moderate
Transportable Office Bldg	5-3E	0168 TA 33	Moderate
Meenie Control Building	5-3E	0008 TA 36	Moderate

D.2 Risk Hazard by District 6-1

Name	District	Address	Risk Hazard
10th Street Apartments	6-1	1075 Myrtle ST	Very High
American Legion - Mess Hall	6-1	1325 Trinity DR	Very High
American Legion Post #90	6-1	1325 Trinity DR	Very High
Ashley Hotel & Suites Bldg 1	6-1	2175 Trinity DR	Very High
Aspen Ridge Lodge Assisted Living	6-1	1010 Sombrillo CT	Very High
B.P.O.E. Elks Lodge #2083	6-1	1601 Trinity DR	Very High
Blue Window Bistro	6-1	0813 Central AVE	Very High
Canyon School Complex	6-1	1100 Canyon RD	Very High
Canyon Village Apts.	6-1	3200 Canyon RD	Very High
Canyoncito Montessori School	6-1	2525 Canyon RD	Very High
China Palace Restaurant	6-1	0759 Central AVE	Very High
Christian Church	6-1	0092 East DR	Very High
Courtright Apartments	6-1	0509 Kiva ST	Very High
Crossroads Bible Church	6-1	0097 East RD	Very High
De Colores Restaurant	6-1	2470A East RD	Very High
El Parasol	6-1	1903 Central AVE	Very High
Fuller Lodge	6-1	2132 Central AVE	Very High



Grace Vineyard Christian Fellowship	6-1	0991 Central AVE	Very High
Hill Diner	6-1	1315 Trinity DR	Very High
Hilltop House - Best Western	6-1	0400 Trinity DR	Very High
Holiday Inn Express	6-1	2455 Trinity DR	Very High
Hytec	6-1	2470B East RD	Very High
Iris Street Apartment Complex	6-1	0712 Iris ST	Very High
Los Alamos County Annex	6-1	0901 Trinity DR	Very High
Los Alamos County Aquatic Center	6-1	2760 Canyon Rd	Very High
Los Alamos County Detention Center	6-1	2500 Trinity DR	Very High
Los Alamos County Mesa Public Library	6-1	2400 Central AVE	Very High
Los Alamos County Municipal Bldg	6-1	2300 Trinity DR	Very High
Los Alamos Lodge Unoccupied	6-1	2201 Trinity DR	Very High
Los Alamos National Bank	6-1	1200 Trinity DR	Very High
Los Alamos Professional Office Complex	6-1	3500 Trinity DR	Very High
Metzger's Hardware	6-1	1607 Central AVE	Very High
Miles Building	6-1	1908 Deacon ST	Very High
New Beginnings Fellowship/Assembly of God	6-1	0112 East RD	Very High
Oppenheimer Place	6-1	1001 Oppenheimer DR	Very High
Smiths Supermarket	6-1	0535 Central AVE	Very High
Sombrillo Nursing Home & Rehabilitation	6-1	1011 Sombrillo CT	Very High
The Church of Jesus Christ of Latter-Day	6-1	1967 18TH ST	Very High
Trinity Office Complex	6-1	0800 Trinity DR	Very High
Unitarian Church	6-1	1738 N Sage	Very High
United Church of Los Alamos (Sanctuary)	6-1	2525 Canyon RD	Very High
Ace Hardware Los Alamos Home Improvement	6-1	0232 DP RD	High
Adapt and Recovery	6-1	0127 East Gate DR /Suite 212H	High
Animal Clinic of Los Alamos	6-1	0127B East Gate DR	High
Ares Corporation	6-1	0557 Oppenheimer DR	High
Aspen Copies	6-1	1907 Central AVE /Suite 8	High
Auto Zone	6-1	0610 Central AVE /C	High
Automotive Professionals	6-1	0099 DP RD	High
Beall's Department Store	6-1	0610 Trinity DR	High
Bee Smart Cafe	6-1	0216 DP RD	High
B-Fit Chiropractic	6-1	3250 Trinity DR	High
Blackrock Networks LLC	6-1	0127 East Gate DR /Suite 106	High
Bradbury Shopping Complex	6-1	1350 Central AVE	High
Brownells Hallmark Shop	6-1	0609 Central AVE	High
Budget Rent-A-Car System INC.	6-1	1040 Airport RD	High
Caballo Peak Apartments	6-1	3301 Canyon RD	High
Caldera Pharmaceuticals	6-1	0278 DP RD /Suite C & D	High
Canyon Bar & Grill	6-1	0163 Central Park Square	High
Canyon Bed and Breakfast	6-1	0080 Canyon RD	High
Casa Mesita Thrift Store	6-1	0747 Central AVE	High
Central Park Square	6-1	0235 Central Park Square	High
Chili Works	6-1	1743 Trinity DR	High
China Moon Restaurant	6-1	0121 Central Park Square	High
Christensen/Risley	6-1	0127 East Gate DR /Suite 206	High
Christian Science Society	6-1	1725 17TH ST	High
Claude and Moerth	6-1	0127 East Gate DR /Suite 211	High
Contract Associates Inc.	6-1	0158 East Gate DR	High
County Administrator's Office	6-1	0133 Central Park Square	High



Coyote Aerospace	6-1	0208 DP RD /Suite E	High
CR cabinets	6-1	0146 Central Park Square	High
Curves for Women	6-1	0150 Central Park Square	High
David Hubson, DDS Los Alamos			
Orthodontics	6-1	3250 Trinity DR	High
David's Barber Shop	6-1	0154 Central Park Square	High
Daylight Donuts/ LA Subs	6-1	0112 Central Park Square	High
Del Norte Credit Union	6-1	1000 Trinity DR	High
Department of Defense LA Office	6-1	0113 Central Park Square	High
Diana's Dog and Cat Grooming	6-1	0208 DP RD /Suite B	High
EHS Enterprises	6-1	0146 East Gate DR	High
Energy Related Devices Inc.	6-1	0127 East Gate DR /Suite 114	High
Energy Solutions	6-1	0176 Central Park Square	High
		0555 Oppenheimer DR /Suite	
Energysolutions, Lic "Cancelled"	6-1	101& 102	High
Exhibit Warehouse	6-1	0195 East RD	High
Exhibit Warehouse	6-1	0195 East RD	High
Finishing Touch	6-1	0174 Central Park Square	High
First National Bank	6-1	1910 Trinity DR	High
Gartz, Heisch, and Roberts; DDS	6-1	0555 Oppenheimer DR /Suite 204	High
Gateway Medical Care	6-1	0118 Central Park Square	High
General Law Office	6-1	1650 Trinity DR	High
Glover's Auto Parts & Repair INC	6-1	0208 DP RD /Suite A	High
Gnu Games	6-1	0127 East Gate DR /Suite 212G	High
Gold Water Au - H2O	6-1	0208 DP RD /Suite D	High
Hair Experts	6-1	0148 Central Park Square	High
Hand Precision Machining Complex	6-1	0127 East Gate DR /Suite 212H	High
Hand Precision Machining, INC.	6-1	0127 East Gate DR /Suite 300	High
High Tec	6-1	0127 East Gate DR /Suite 104	High
Hope Pregnancy Center Unoccupied	6-1	1460 Trinity DR /Suite 2	High
Hytec	6-1	0110 East Gate DR	High
J & L Self Storage	6-1	0224 DP RD	High
J & L Self Storage	6-1	1265 Trinity DR	High
J & L Self Storage	6-1	1285 Trinity DR	High
J & L Self Storage	6-1	1847 Trinity DR	High
Jona Manufacturing Services INC	6-1	0264 DP RD	High
Kathleen Veenstra	6-1	0127 East Gate DR /Suite 212E	High
Ken Armbruster	6-1	0127 East Gate DR /Suite 212D & I	High
Knecht Automotive	6-1	0201 Knecht ST	High
Knights of Columbus Hall	6-1	0104 DP RD	High
KRSN Radio	6-1	0145 Central Park Square	High
Kwik Lube	6-1	2155 Trinity DR	High
L.A. Shipping Service	6-1	1362 Trinity DR	High
L.S. Office Building	6-1	0125 Central Park Square	High
LA County Public Works Department	6-1	0871 Trinity DR	High
LA County Street Department	6-1	0261 08TH ST	High
LA County Transportation Traffic Office	6-1	0885 Trinity DR	High
LA Meeting Place Vacant	6-1	1475 Central AVE /Suite 250	High
Laboratory Corporation of America	6-1	0168 Central Park Square	High
LATA Building	6-1	0999 Central AVE	High
Lemon Grass Restaurant	6-1	0160 Central Park Square	High
Lewis H. Roberts; DDS	6-1	1247 Central AVE /Suite B	High
Los Alamos Auto Body Repair, INC.	6-1	0195 Knecht ST	High



Los Alamos Betty E. Hart Senior Center	6-1	1000 Oppenheimer DR	High
Los Alamos Chamber of Commerce	6-1	0109 Central Park Square	High
Los Alamos County Airport	6-1	1040 Airport RD	High
Los Alamos County Animal Shelter	6-1	0200 Knecht ST	High
Los Alamos County Bayo Plant	6-1	0001 Pueblo Canyon RD	High
Los Alamos County Community Center	6-1	0475 20TH ST	High
Los Alamos County Electric Dist. Shop	6-1	1925 Trinity DR	High
Los Alamos County Little Theater	6-1	1670 Nectar ST	High
Los Alamos County Utilities	6-1	0313 08TH ST	High
Los Alamos Home Improvement Business	6-1	0274 DP RD	High
Los Alamos Jewish Center	6-1	2400 Canyon RD	High
Los Alamos Music ***CLOSED***	6-1	0181 Central Park Square	High
Los Alamos Properties	6-1	1475 Central AVE /Suite 150	High
Los Alamos Public Schools Admin.	6-1	0751 Trinity DR	High
Los Alamos Shamrock	6-1	1239 Trinity DR	High
Los Alamos Shell	6-1	2591 Trinity DR	High
Los Alamos Technical Services	6-1	0127 East Gate DR /Suite 103	High
Los Alamos Visiting Nurse Service INC	6-1	0116 Central Park Square	High
Los Ventanas Apartment Complex	6-1	02-54 Short DR	High
Lyla's Specialty Foods & Vit. **Closed**	6-1	0763 Central AVE	High
McDonald's Restaurant	6-1	1247 Trinity DR	High
Melnick Insurance Agency/ LA Title	6-1	0919 Central AVE	High
Merick Building	6-1	0600 06TH ST	High
Mi Casita	6-1	1793 Deacon ST	High
Mountainair Cleaners, INC.	6-1	0157 Central Park Square	High
Muir complex	6-1	1619 Central AVE	High
NAPA Auto Parts	6-1	0201 Knecht ST	High
National Security Technologies	6-1	0182 East Gate DR	High
Nectar LLC Building	6-1	1505 15TH ST	High
Netuschil Development Corporation	6-1	0130 Central Park Square	High
Office Bldg	6-1	2237 Trinity DR /N	High
Office Bldg	6-1	0105 Central Park Square	High
Office Building	6-1	0555 Oppenheimer DR	High
Ombuds Office	6-1	0114 Central Park Square	High
Oppenheimer East	6-1	0557 Oppenheimer DR	High
Origami Japanese Restaurant	6-1	0182 Central Park Square	High
Parker Construction	6-1	0278 DP RD /Suite A	High
Pet Pangaea LLC	6-1	0158 Central Park Square	High
Pizza Hut	6-1	0166 Central Park Square	High
PNP	6-1	0305 Knecht ST	High
Preventech	6-1	0272 DP RD /Suite B	High
Professional Skincare Choices	6-1	0127 East Gate DR /Suite 212C	High
Protection Technology LA Training Center	6-1	1370 Central AVE /Suite B	High
Prudential Los Alamos Realtors	6-1	0147 Central Park Square	High
Public Affairs Office	6-1	0135 Central Park Square /B	High
Pulse Systems INC.	6-1	0166 East Gate DR	High
Pyramid Cafe LA	6-1	0751 Central AVE /12	High
Quality Auto Body	6-1	1731 TRINITY DR	High
Quizno's Subs	6-1	0172 Central Park Square	High
R.P.M. Automotive Inc.	6-1	1731 TRINITY DR	High
Rapid Machine Works	6-1	0216 DP RD	High
Reel Deal Theater	6-1	2551 Central AVE	High
Remax of Los Alamos	6-1	0108 Central Park Square	High



Ridge Park Condominiums	6-1	0505 Oppenheimer DR	High
Ruby K's Bagel Cafe	6-1	1789 Central AVE /Suite 2	High
School Maintenance	6-1	0213 07TH ST	High
Schools Transportation Building	6-1	0153 07TH ST	High
Shannon Building (aka Shannon Bldg. 1)	6-1	1247 Central AVE /Suite E	High
Shannon Corp. Bldg	6-1	2075 Trinity DR	High
Shaw Environmental INC	6-1	0335 Central Park Square	High
Shear Genius, Inc.	6-1	0143 Central Park Square	High
Sonalysts INC	6-1	0104 Central Park Square	High
Sonic	6-1	1695 Trinity DR	High
State Farm Insurance; Lou Santoro	6-1	0110 Central Park Square	High
Susan Hazen-Hammond	6-1	0127 East Gate DR /Suite 202	High
Ted's Barber Shop	6-1	0123 Central Park Square	High
Tektronix, INC.	6-1	0127 East Gate DR /Suite 212B	High
The Coffee House Cafe	6-1	0723 Central AVE	High
Trinity Chevron Gas Station	6-1	2373 Trinity DR	High
TRK	6-1	1175 Iris ST	High
United Church of Los Alamos (Craig Hall)	6-1	2525 Canyon RD	High
United Church of Los Alamos (Education)	6-1	2525 Canyon RD	High
UNM Apartments 2	6-1	1203 09TH ST	High
Unoccupied	6-1	0183 Central Park Square	High
Unoccupied	6-1	1460 Trinity DR /Suite 4	High
UPEX- Packing/Copy	6-1	0106 Central Park Square	High
US Investigative	6-1	0280 Central Park Square	High
Vacant	6-1	0127 East Gate DR /Suite 208	High
Vacant	6-1	0127 East Gate DR /Suite 203	High
Vacant	6-1	0144 Central Park Square	High
VACANT	6-1	0555 Oppenheimer DR	High
Vera Povolna	6-1	0127 East Gate DR /Suite 212F	High
Veterans of Foreign Wars	6-1	1793 Deacon ST	High
Village Arts	6-1	0170 Central Park Square	High
Viola's Restaurant	6-1	1360 Trinity DR	High
Waste Water Treatment Plant	6-1	3500 Pueblo Canyon RD	High
Yeaman's Machine Shop	6-1	0162 East Gate DR	High
YMCA	6-1	1450 Iris ST	High
1789 Central Building	6-1	1789 Central AVE /Suite 1	High
2101 Trinity Drive Bldg 1	6-1	2101 Trinity DR /Ste A - N	High
2101 Trinity Drive Bldg 2	6-1	2101 Trinity DR /Ste O - T	High
2101 Trinity Drive Bldg 3	6-1	2101 Trinity DR /Ste U - W	High
Anderson Complex	6-1	1377 Diamond DR	High
Ashley Hotel & Suites Bldg 2	6-1	2185 Trinity DR	High
CB Fox Building Complex	6-1	1735 Central AVE	High
Central Park Square Bldg 1	6-1	0101-112 Central Park Square	High
Central Park Square Bldg 2	6-1	0113-116 Central Park Square	High
Central Park Square Bldg 3	6-1	0117-139 Central Park Square	High
Central Park Square Bldg 4	6-1	0140-152 Central Park Square	High
Central Park Square Bldg 5	6-1	0154-160 Central Park Square	High
Central Park Square Bldg 6	6-1	0163-179 Central Park Square	High
Central Park Square Bldg 7	6-1	0180-190 Central Park Square	High
Children's Montessori PreSchool	6-1	1060 Nugget ST	High
CIO	6-1	Central AVE	High
Collier Industrial Complex	6-1	0208 DP RD	High
Data Ventures	6-1	1475 Central AVE /Suite 230	High



Farmers Insurance	6-1	1910 Deacon ST	High
For the Love of Life	6-1	1460 Trinity DR /Suite 7	High
Holiday Express Inn & Suites	6-1	0060 Entrada Drive DR	High
Koch Consulting	6-1	1460 Trinity DR /Suite 6	High
Kraemer & Lane PC	6-1	1475 Central AVE /Suite 125	High
L. S. TRK Building	6-1	195 East DR	High
L.S. Office Building	6-1	15TH ST	High
LA County Transit	6-1	0885A Trinity DR	High
LA High School Gymnasium and Auxiliary	6-1	1300 Diamond DR	High
LA School Warehouse	6-1	0273 07TH ST	High
LA Schools Service Center	6-1	0651 Trinity DR	High
LA Solution, LLC Mortgage Brokers	6-1	2101 Trinity DR /Suite F	High
Laboratory Building DND	6-1	0002 TA 21	High
LAC Lavy Lane Conference Room	6-1	2101 Trinity DR /Suite A2	High
Los Alamos APB Bldg H	6-1	Airport Basin RD	High
Los Alamos APB Building B	6-1	Airport Basin RD	High
Los Alamos APB Building C	6-1	Airport Basin RD	High
Los Alamos APB Building D	6-1	Airport Basin RD	High
Los Alamos County Airport Basin Site	6-1	SR 502	High
Los Alamos County Animal Shelter	6-1	226 East RD	High
Los Alamos County Judicial Center	6-1	2500 Trinity DR	High
Los Alamos County Judicial Complex	6-1	2500 Trinity DR	High
Los Alamos County Police Station	6-1	2500 Trinity DR	High
Los Alamos Family/Vein Care	6-1	3917 West RD /Suite 130	High
Los Alamos Plaza Unoccupied	6-1	2201 Trinity DR	High
Los Alamos Surgical Associates - Urology	6-1	3917 West RD /Suite 137	High
Lynn Finnegan PA	6-1	1475 Central AVE /Suite 220	High
Maintenance Workshop & Crafts Bldg DND	6-1	0031 TA 21	High
Mari-Mac Mall	6-1	0911-997 Central AVE	High
MDA-B	6-1	MDA-B TA 21	High
Mosaic Architectural Solutions	6-1	1907 Central AVE /200, 205, & 208	High
NMED DOE Oversight Bureau	6-1	1183 Diamond DR /Suite A	High
Oncology Clinic	6-1	3917 West RD /Suite 225	High
Over Your Head Salon	6-1	1460 Trinity DR /Suite 5	High
P Reid Griffith PA	6-1	1475 Central AVE /Suite 210	High
Pet Pangea Home Office	6-1	0155 Central Park Square	High
Precision Sampling	6-1	0278 DP RD /Suite B	High
SCI Tac	6-1	1908 Deacon ST	High
Steve Shaw Architect	6-1	1907 Central AVE /Suite 206	High
Technology Management Consultants (TMC)	6-1	1907 Central AVE /Suite 202 & 204	High
TRK Building Complex	6-1	0195 East RD	High
Unknown	6-1	0101 Central Park Square	High
Unoccupied	6-1	2101 Trinity DR /Suite O	High
UPT	6-1	1907 Central AVE /Suite 209	High
US Post Office	6-1	0199 Central Park Square	High
Vacant	6-1	1907 Central AVE /Suite 212	High
Vista Control Systems	6-1	2101 Trinity DR /Ste Q & R	High
Alion Science and Technology	6-1	1475 Central AVE /Suite 200	Moderate
American Tower Corp. ***CLOSED***	6-1	0401 Trinity DR	Moderate
Archaeology Lab DND	6-1	0014 TA 21	Moderate
B & D Industries	6-1	0101 DP RD	Moderate
Blockbuster Video Superstore (CLOSED)	6-1	0614 Trinity DR	Moderate



Caballo Bike and Ski	6-1	0935 Central AVE	Moderate
Calcium Building Scheduled for DND	6-1	0212 TA 21	Moderate
Casa de Luz Apartments	6-1	0799 06TH ST	Moderate
Castille & Ortiz LIC Vacant	6-1	1475 Central AVE /Suite 110	Moderate
Central Park Condos	6-1	0802 09TH ST	Moderate
Chapel Apartments	6-1	1926-B 24TH ST	Moderate
Community Bank	6-1	1475 Central AVE /Suite 100	Moderate
Doxcelerate Corporation VACANT	6-1	0134 East Gate DR	Moderate
East Park Pool	6-1	0111 East RD	Moderate
Equipment Building DND	6-1	0166 TA 21	Moderate
Equipment Building Scheduled for DND	6-1	0167 TA 21	Moderate
Fire Station # 2	6-1	0132 DP RD	Moderate
Fire Station # 6	6-1	0457 East RD	Moderate
Gordons INC. (Closed)	6-1	0743 Central AVE	Moderate
Hill Vending Services, INC.	6-1	0272 DP RD	Moderate
id Analytics	6-1	1362 Trinity DR /Suite D1	Moderate
Illa's Orchids	6-1	0809 Central AVE	Moderate
International Guards Union - Local 69	6-1	1907 Central AVE /Suite 214	Moderate
Iris St. Apartment (1)	6-1	1305 Iris ST	Moderate
Iris St. Apartment (2)	6-1	0939 Iris ST	Moderate
Iris Street Apartments	6-1	1013 Iris ST	Moderate
J R Clothing	6-1	2101 Trinity DR /Suite G	Moderate
Jemez Physical Therapy	6-1	2101 Trinity DR /Suite N	Moderate
L.S. A&M Building AKA Tri-Square	6-1	2075 Trinity DR	Moderate
LA County Public Health - NM Dept of He	6-1	1183 Diamond DR /Suite D	Moderate
LA Hair Affair	6-1	0983 Central AVE	Moderate
Lab Supply Warehouse Scheduled for DND	6-1	0213 TA 21	Moderate
Laboratory Bldg DND	6-1	0152 TA 21	Moderate
Laboratory Building DND	6-1	0005 TA 21	Moderate
LAFD Fire Administration	6-1	0195 East RD /Suite 101	Moderate
LANL Business Ops. Div. Propty/Pueblo El	6-1	1317 TA 00	Moderate
LANL Data Management	6-1	0195 East RD /Suite 103	Moderate
Las Cumbres Community Services	6-1	2056 Spruce ST	Moderate
Loma Vista Apartment Complex	6-1	0064 Loma Vista DR	Moderate
Los Alamos County Red Cross Bldg.	6-1	2150 Juniper ST	Moderate
Los Alamos Fitness Center	6-1	0771 Central AVE	Moderate
Los Alamos Historical Museum Shop	6-1	1921 Juniper ST	Moderate
Los Alamos Monitor	6-1	0256 DP RD	Moderate
Los Alamos Rio Grande Travel	6-1	0911 Central AVE	Moderate
Los Cerros Apt's.-Div. of Shannon Corp	6-1	3000 Trinity DR	Moderate
Mary Deal Building	6-1	2610 Trinity DR	Moderate
Masonic Temple	6-1	1400 N Sage	Moderate
Materials Receiving Scheduled for DND	6-1	0328 TA 21	Moderate
Molecular Chemistry Lab **DND**	6-1	0150 TA 21	Moderate
Nettle Hair	6-1	0097 DP RD	Moderate
Northern NM Periodontal Assoc.	6-1	2610 Trinity DR /Suite 11	Moderate
Precision Survey INC,	6-1	1460 Trinity DR /Suite 3	Moderate
Q Consulting	6-1	2101 Trinity DR /Suite E	Moderate
Radioactive Liquid Waste Disposal DND	6-1	0257 TA 21	Moderate
Research Support Bldg Scheduled DND	6-1	0210 TA 21	Moderate
Ridgeway Veterinary Hospital	6-1	0194 East RD	Moderate
Rocky Mountain Business Systems	6-1	1362 TRINITY DR /Suite D2	Moderate
Start of NM Motor Vehicles Division	6-1	0997 Central AVE	Moderate

Steam Plant Scheduled for DND	6-1	0357 TA 21	Moderate
Summit Electric Supply Closed	6-1	0122 East Gate DR /Suite B	Moderate
Sunrise Vista Complex	6-1	3250 Trinity DR	Moderate
Technical Design INC	6-1	0555 Oppenheimer DR	Moderate
Tres Casitas 536	6-1	0536 Central AVE	Moderate
Tres Casitas 562	6-1	0562 Central AVE	Moderate
Tres Casitas 588	6-1	0588 Central AVE	Moderate
Tritium Science & Tech Bldg. DND	6-1	0209 TA 21	Moderate
Tritium System Test Assembly Fac DND	6-1	0155 TA 21	Moderate
TSC Dev Office Complex	6-1	2237 Trinity DR /S	Moderate
Unknown Business	6-1	0927 Central AVE	Moderate
Unoccupied	6-1	0967 Central AVE	Moderate
Unoccupied	6-1	0248 DP RD	Moderate
Unoccupied	6-1	2101 Trinity DR /Suite U	Moderate
Unoccupied	6-1	2101 Trinity DR /Suite V	Moderate
Warehouse Scheduled for DND	6-1	0286 TA 21	Moderate
Zia Credit Union	6-1	1001 Central AVE	Moderate
Ziegler Agency Farmers Insurance	6-1	0935 A Central AVE	Moderate
Art Center @ Fuller Lodge	6-1	2132 Central AVE	Low
Art Gallery	6-1	0800 Trinity DR	Low
Arthur Montoya Jr. DDS	6-1	2610 Trinity DR /Suite 03	Low
Atomic Vision	6-1	0800 Trinity DR /Suite J	Low
Bella Cosa Flowers, Gifts & Events	6-1	1743 Central AVE	Low
Bill Redmond Appraisals	6-1	2610 Trinity DR /Suite 10	Low
Bogenholm, Sandra M.A., RMHC	6-1	0800 Trinity DR	Low
Bradbury Science Museum	6-1	1450 Central AVE	Low
CB Fox	6-1	1735 Central AVE	Low
CB Fox Children Store	6-1	1731 Central AVE	Low
Central Avenue Grill	6-1	1789 Central AVE /Suite 8	Low
Cook'N In Style & Coffee Booth	6-1	1631 Central AVE	Low
Cottontails Inc.	6-1	0800 Trinity DR	Low
Daniel's Cafe	6-1	0800 Trinity DR /Suite A	Low
Democratic Headquarters	6-1	2610 Trinity DR /Suite 22	Low
Diversity Office	6-1	0800 Trinity DR /Suite H	Low
Don Taylor's	6-1	0999 Central AVE /100	Low
Dr. Shin	6-1	0800 Trinity DR /Suite B	Low
Drop It Here /Virtual Los Alamos	6-1	1247 Central AVE /Suite B2	Low
E2 - Consulting	6-1	1911 Central AVE /Suite 200A	Low
Endoscopy Center of Los Alamos	6-1	1911 Central AVE /Suite 100	Low
EWL Dental Lab	6-1	0208 DP RD	Low
Executive Cleaners Unoccupied	6-1	2101 Trinity DR /Suite A	Low
Eye Associates of New Mexico	6-1	1623 Central AVE	Low
Fidel Office Supplies/Quicktan	6-1	1247 Central AVE /Suite A	Low
Friends Bookstore of Mesa Public Library	6-1	2400 Central AVE /100	Low
Golden Aspen Message The	6-1	2610 Trinity DR /Suite 16	Low
Holmes & Narver	6-1	0800 Trinity DR /Suite K	Low
		0190 Central Park Square /Suite	
Home Instead Senior Care	6-1	106	Low
Home Run Pizza	6-1	1627 Central AVE	Low
Integrated Electric & Utility, LLC	6-1	2101 Trinity DR /Suite C	Low
Intermountain Mortgage Co. INC.	6-1	1789 Central AVE /Suite 4	Low
Jemez Agency Insurance Company	6-1	2610 Trinity DR /Suite 06	Low
Kleinfelder	6-1	1460 Trinity DR /Suite 1	Low



KSL Administrative Offices	6-1	1350 Central AVE	Low
L.A. Tan & More	6-1	0975 Central AVE	Low
LA Hot Spot/ LA Real-estate Group	6-1	1247 Central AVE /Suite D	Low
LANL Community Project Office	6-1	1619 Central AVE	Low
Larry's Carpet Cleaning	6-1	1370 Central AVE /Suite A2	Low
		0190 Central Park Square /Suite	
Lorraine Hartway; CPA	6-1	122	Low
Los Alamos Economic Development Corp	6-1	0190 Central Park Square	Low
Los Alamos Family Council, Inc	6-1	1505 15TH ST /Suite A	Low
Los Alamos Historical Museum Shop			
Manger	6-1	2132 Central AVE	Low
Los Alamos Realtors	6-1	2101 Trinity DR /Suite D	Low
Los Alamos Technical Associates INC	6-1	0999 Central AVE /Suite 300	Low
Los Alamos Urgent Care	6-1	1460A Trinity DR	Low
Mary Deal Reality	6-1	2610 Trinity DR /Suite 04	Low
Meyers DDS	6-1	2610 Trinity DR /Suite 05	Low
Monica's Hair & Tanning Salon	6-1	1460 Trinity DR /Suite 9	Low
Museum Fabrication Shop	6-1	1372 Central AVE	Low
Neptune & Co, Inc.	6-1	1505 15TH ST /Suite B	Low
Northern New Mexico Gastroenterology	6-1	1911 Central AVE /Suite 101 & 102	Low
Office Building	6-1	0820 Trinity DR	Low
Ortiz & Moss Dental Assoc.; PC	6-1	2101 Trinity DR /Suite P	Low
Otowi Station Bookstore	6-1	1350 Central AVE	Low
PM Tech Inc. Training Center	6-1	2101 Trinity DR /Suite S & T	Low
Public Access Channel	6-1	0475 20TH ST	Low
Public Work Administration	6-1	1925 Trinity DR /Suite A	Low
Public Work Administration	6-1	1925 Trinity DR /Suite B	Low
Public Work Administration	6-1	1925 Trinity DR /Suite C	Low
Radio Shack	6-1	0999 Central AVE /Suite 150	Low
Realty Estate Associates	6-1	1460B Trinity DR	Low
Sigma Science INC	6-1	0800 Trinity DR /Suite C	Low
Silver/Hazard Counseling	6-1	2610 Trinity DR /Suite 18	Low
Smart Set Styling Salon	6-1	2101 Trinity DR /Suite B	Low
Smith Barney Investment Center	6-1	1200 Trinity DR	Low
SOC (A.K.A. PTLA)	6-1	1247 Central AVE /Suite C & F	Low
South Office Solution	6-1	1789 Central AVE /Suite 7 & 10	Low
Starbucks Coffee	6-1	1801 Central AVE	Low
Stewart Title	6-1	1789 Central AVE /Suite 6	Low
Subway	6-1	1350 Central AVE	Low
The Spa at the Hilltop House	6-1	0400 Trinity DR /Suite A	Low
Title Guaranty & Insurance	6-1	1200 Trinity DR	Low
Top Nail & Spa	6-1	0800 Trinity DR /Suite D	Low
Total Image	6-1	0800 Trinity DR /Suite E	Low
TRK Management	6-1	0195 East RD /Suite 102B	Low
UCNNM	6-1	1350 Central AVE /101	Low
Uli's Boutique	6-1	0800 Trinity DR	Low
UNM Apartments 1	6-1	1027 09TH ST	Low
Unoccupied	6-1	2610 Trinity DR /Suite 07	Low
Unoccupied	6-1	1789 Central AVE /Suite	Low
Unoccupied	6-1	0800 Trinity DR /Suite F	Low
Unoccupied	6-1	1460 Trinity DR /Suite 8	Low
Unoccupied	6-1	1789 Central AVE /Suite 9	Low
Unoccupied	6-1	2610 Trinity DR /Suite 20	Low



URS A.K.A. WSMS	6-1	1911 Central AVE /Suite 200	Low
V Spring Capitol	6-1	1200 Trinity DR	Low
Vacant	6-1	1615 Central AVE	Low
Weston Solution Inc.	6-1	0999 Central AVE /Suite 200	Low
Yenny Art Gallery	6-1	0800 Trinity DR	Low

E.2 2000-2009 Call Type

Inci_type	Descript	Cnt_inci_type
100	Fire, Other	113
1001	Shot Activity W/ Fire	22
110	Structure fire, Other (conversion only)	464
111	Building fire	44
112	Fires in structure other than in a building	5
113	Cooking fire, confined to container	37
114	Chimney or flue fire, confined to chimney or flue	12
115	Incinerator overload or malfunction, fire confined	1
116	Fuel burner/boiler malfunction, fire confined	4
118	Trash or rubbish fire, contained	3
120	Fire in mobile prop used as a fixed struc, Other	8
123	Fire in portable building, fixed location	11
130	Mobile property (vehicle) fire, Other	16
131	Passenger vehicle fire	37
132	Road freight or transport vehicle fire	2
137	Camper or recreational vehicle (RV) fire	1
138	Off-road vehicle or heavy equipment fire	4
140	Natural vegetation fire, Other	73
1401	shot with fire	3
141	Forest, woods or wildland fire	84
142	Brush or brush-and-grass mixture fire	54
143	Grass fire	18
150	Outside rubbish fire, Other	17
151	Outside rubbish, trash or waste fire	13
154	Dumpster or other outside trash receptacle fire	28
160	Special outside fire, Other	35
1601	Shot Activity W/Fire	9
161	Outside storage fire	2
1611	Organic Materials	2
162	Outside equipment fire	9
163	Outside gas or vapor combustion explosion	1
172	Cultivated orchard or vineyard fire	4
173	Cultivated trees or nursery stock fire	1
200	Overpressure rupture, explosion, overheat other	5
210	Overpressure rupture from steam, Other	3
211	Overpressure rupture of steam pipe or pipeline	4
220	Overpressure rupture from air or gas, Other	3
221	Overpressure rupture of air or gas pipe/pipeline	3
223	Air or gas rupture of pressure or process vessel	2
231	Chemical reaction rupture of process vessel	2
240	Explosion (no fire), Other	4
241	Munitions or bomb explosion (no fire)	2
2411	Shot Activity	718
243	Fireworks explosion (no fire)	1
251	Excessive heat, scorch burns with no ignition	26



440	Electrical wiring/equipment problem, Other	40
441	Heat from short circuit (wiring), defective/worn	11
442	Overheated motor	9
443	Breakdown of light ballast	7
444	Power line down	13
445	Arcing, shorted electrical equipment	15
451	Biological hazard, confirmed or suspected	1
460	Accident, potential accident, Other	13
462	Aircraft standby	5
5712	Shot Activity Station Standby	49
600	Good intent call, Other	91
611	Dispatched & cancelled en route	38
621	Wrong location	1
622	No Incident found on arrival at dispatch address	36
631	Authorized controlled burning	37
632	Prescribed fire	27
641	Vicinity alarm (incident in other location)	5
650	Steam, Other gas mistaken for smoke, Other	9
651	Smoke scare, odor of smoke	167
652	Steam, vapor, fog or dust thought to be smoke	19
653	Smoke from barbecue, tar kettle	9
6531	Legal Private Residence Campfire	1
6532	Legal County Property Campfire	1
70		1
700	False alarm or false call, Other	706
710	Malicious, mischievous false call, Other	11
713	Telephone, malicious false alarm	4
714	Central station, malicious false alarm	1
715	Local alarm system, malicious false alarm	2
721	Bomb scare - no bomb	41
730	System malfunction, Other	627
731	Sprinkler activation due to malfunction	43
732	Extinguishing system activation due to malfunction	8
733	Smoke detector activation due to malfunction	232
734	Heat detector activation due to malfunction	77
735	Alarm system sounded due to malfunction	428
740	Unintentional transmission of alarm, Other	147
7401	wrong information given to dispatch	1
741	Sprinkler activation, no fire - unintentional	34
742	Extinguishing system activation	7
743	Smoke detector activation, no fire - unintentional	266
744	Detector activation, no fire - unintentional	121
745	Alarm system activation, no fire - unintentional	354
7451	Pull Station, no fire - unintentional	22
		5647
300	Rescue, EMS incident, other	406
3001	MVA W/O injuries	154
3002	Facility Transfer	951
3003	Facility Transfer (Cancelled)	14
311	Medical assist, assist EMS crew	167
3111	In home or business assist no transport	212
3112	Assist other medical transporting service	120
3113	Non LAFD ambulance intercepts	23



3114	Return to Patients Home	258
3115	POV Intercept	3
320	Emergency medical service, Other (conversion only)	798
321	EMS call, excluding vehicle accident with injury	1676
3210	DOA	61
3211	Behavioral	236
3212	Cardiac	614
3213	Diabetic Emergency	129
3214	Respiratory	417
3215	Seizure / CVA	278
3216	Syncopal Episode	308
3217	Trauma	1165
3218	Allergic Reaction	51
3219	Other medical emergency	1390
322	Motor vehicle accident with injuries	244
3221	Vehicle/Vehicle	230
3222	Vehicle/fixed object	131
3223	Vehicle/animal	8
3224	Vehicle rollover	64
323	Motor vehicle/pedestrian accident (MV Ped)	23
3232	Motor vehicle/pedestrian accident (MV Ped) <18 Yrs	11
3233	Motor vehicle/pedestrian accident (MV Ped) >18 Yrs	15
3234	Motor vehicle/bicycle	21
324	Motor Vehicle Accident with no injuries	59
331	Lock-in (if lock out , use 511)	14
371	Electrocution or potential electrocution	2
661	EMS call, party transported by non-fire agency	10
		10263
400	Hazardous condition, Other	117
410	Combustible/flammable gas/liquid condition, other	28
411	Gasoline or other flammable liquid spill	44
412	Gas leak (natural gas or LPG)	57
413	Oil or other combustible liquid spill	18
420	Toxic condition, Other	5
421	Chemical hazard (no spill or leak)	10
422	Chemical spill or leak	23
424	Carbon monoxide incident	18
430	Radioactive condition, Other	1
431	Radiation leak, radioactive material	3
463	Vehicle accident, general cleanup	12
4631	Vehicle accident, Micro Blaze Application	3
471	Explosive, bomb removal (for bomb scare, use 721)	16
671	HazMat release investigation w/no HazMat	13
		368
340	Search for lost person, other	1
341	Search for person on land	6
342	Search for person in water	1
350	Extrication, rescue, Other	15
351	Extrication of victim(s) from building/structure	3
352	Extrication of victim(s) from vehicle	22
353	Removal of victim(s) from stalled elevator	48
355	Confined space rescue	1
356	High-angle rescue	17



357	Extrication of victim(s) from machinery	2
360	Water & ice-related rescue, other	1
361	Swimming/recreational water areas rescue	1
381	Rescue or EMS standby	87
		205
480	Attempted burning, illegal action, Other	3
500	Service Call, other	486
5001	Extreme fire danger standby	34
5002	Confined Space Standby	11
5003	Odor Check no Gas Found	33
510	Person in distress, Other	46
511	Lock-out	5
520	Water problem, Other	21
521	Water evacuation	3
522	Water or steam leak	35
531	Smoke or odor removal	130
540	Animal problem, Other	1
541	Animal problem	1
542	Animal rescue	4
550	Public service assistance, Other	68
551	Assist police or other governmental agency	21
5511	Haz Mat Standby No exposure	4
552	Police matter	5
553	Public service	53
554	Assist invalid	9
555	Defective elevator, no occupants	81
561	Unauthorized burning	37
5611	Unattended Campfire	1
571	Cover assignment, standby, moveup	109
736	CO detector activation due to malfunction	32
746	Carbon monoxide detector activation, no CO	27
812	Flood assessment	3
		1263
		15
900	Special type of incident, Other	86
9001	Large Event Coverage	8
9002	Fire Department Participation Drill	33
911	Citizen complaint	14
UUU	Undetermined incident type (conversion only)	3
		159
800	Severe weather or natural disaster, Other	5
813	Wind storm, tornado/hurricane assessment	2
814	Lightning strike (no fire)	33
		40

Type	Descript	Type count	Key
100	Fire, Other	20	Fire
1001	Shot Activity W/ Fire	1	Rescue
111	Building fire	6	Hazmat
112	Fires in structure other than in a building	1	Public Assist
113	Cooking fire, confined to container	3	Other
114	Chimney or flue fire, confined to chimney or flue	1	Weather
116	Fuel burner/boiler malfunction, fire confined	2	



130	Mobile property (vehicle) fire, Other	1
131	Passenger vehicle fire	5
132	Road freight or transport vehicle fire	1
140	Natural vegetation fire, Other	2
141	Forest, woods or wildland fire	13
142	Brush or brush-and-grass mixture fire	5
143	Grass fire	1
150	Outside rubbish fire, Other	2
151	Outside rubbish, trash or waste fire	2
154	Dumpster or other outside trash receptacle fire	1
160	Special outside fire, Other	8
200	Overpressure rupture, explosion, overheat other	1
221	Overpressure rupture of air or gas pipe/pipeline	1
223	Air or gas rupture of pressure or process vessel	1
241	Munitions or bomb explosion (no fire)	1
2411	Shot Activity	71
251	Excessive heat, scorch burns with no ignition	4
561	Unauthorized burning	2
600	Good intent call, Other	14
611	Dispatched & cancelled en route	1
631	Authorized controlled burning	4
650	Steam, Other gas mistaken for smoke, Other	2
651	Smoke scare, odor of smoke	9
700	False alarm or false call, Other	88
710	Malicious, mischievous false call, Other	1
721	Bomb scare - no bomb	3
730	System malfunction, Other	69
731	Sprinkler activation due to malfunction	3
733	Smoke detector activation due to malfunction	38
734	Heat detector activation due to malfunction	11
735	Alarm system sounded due to malfunction	24
740	Unintentional transmission of alarm, Other	9
741	Sprinkler activation, no fire - unintentional	2
742	Extinguishing system activation	1
743	Smoke detector activation, no fire - unintentional	23
744	Detector activation, no fire - unintentional	22
745	Alarm system activation, no fire - unintentional	31
440	Electrical wiring/equipment problem, Other	1
441	Heat from short circuit (wiring), defective/worn	1
442	Overheated motor	1
444	Power line down	2
445	Arcing, shorted electrical equipment	2
460	Accident, potential accident, Other	2
		520
300	Rescue, EMS incident, other	118
3002	Facility Transfer	1
311	Medical assist, assist EMS crew	63
321	EMS call, excluding vehicle accident with injury	344
3211	Behavioral	16
3212	Cardiac	90
3213	Diabetic Emergency	5
3214	Respiratory	27
3215	Seizure / CVA	19



3216	Syncopal Episode	17
3217	Trauma	53
3218	Allergic Reaction	2
3219	Other medical emergency	79
322	Motor vehicle accident with injuries	74
323	Motor vehicle/pedestrian accident (MV Ped)	7
661	EMS call, party transported by non-fire agency	1
		916
400	Hazardous condition, Other	5
410	Combustible/flammable gas/liquid condition, other	1
411	Gasoline or other flammable liquid spill	4
412	Gas leak (natural gas or LPG)	3
413	Oil or other combustible liquid spill	3
422	Chemical spill or leak	5
424	Carbon monoxide incident	2
463	Vehicle accident, general cleanup	1
471	Explosive, bomb removal (for bomb scare, use 721)	1
736	CO detector activation due to malfunction	1
746	Carbon monoxide detector activation, no CO	1
		27
331	Lock-in (if lock out , use 511)	3
350	Extrication, rescue, Other	1
352	Extrication of victim(s) from vehicle	3
353	Removal of victim(s) from stalled elevator	3
356	High-angle rescue	2
381	Rescue or EMS standby	2
555	Defective elevator, no occupants	1
		15
500	Service Call, other	72
5001	Extreme fire danger standby	6
510	Person in distress, Other	6
522	Water or steam leak	7
531	Smoke or odor removal	11
542	Animal rescue	1
550	Public service assistance, Other	6
551	Assist police or other governmental agency	4
552	Police matter	1
553	Public service	2
		116
571	Cover assignment, standby, moveup	17
900	Special type of incident, Other	14
911	Citizen complaint	3
		34
800	Severe weather or natural disaster, Other	1
814	Lightning strike (no fire)	6
		7



Type	Descript	Type count	Key
100	Fire, Other	22	Fire
1001	Shot Activity W/ Fire	2	Rescue
111	Building fire	4	Hazmat
113	Cooking fire, confined to container	2	Public Assist
114	Chimney or flue fire, confined to chimney or flue	2	Other
131	Passenger vehicle fire	8	Weather
137	Camper or recreational vehicle (RV) fire	1	
140	Natural vegetation fire, Other	4	
141	Forest, woods or wildland fire	10	
142	Brush or brush-and-grass mixture fire	6	
143	Grass fire	3	
154	Dumpster or other outside trash receptacle fire	3	
160	Special outside fire, Other	3	
162	Outside equipment fire	1	
220	Overpressure rupture from air or gas, Other	1	
2411	Shot Activity	44	
243	Fireworks explosion (no fire)	1	
251	Excessive heat, scorch burns with no ignition	5	
440	Electrical wiring/equipment problem, Other	6	
441	Heat from short circuit (wiring), defective/worn	1	
443	Breakdown of light ballast	2	
561	Unauthorized burning	4	
600	Good intent call, Other	16	
611	Dispatched & cancelled en route	1	
632	Prescribed fire	3	
641	Vicinity alarm (incident in other location)	1	
650	Steam, Other gas mistaken for smoke, Other	1	
651	Smoke scare, odor of smoke	7	
652	Steam, vapor, fog or dust thought to be smoke	2	
700	False alarm or false call, Other	119	
710	Malicious, mischievous false call, Other	1	
715	Local alarm system, malicious false alarm	1	
721	Bomb scare - no bomb	7	
730	System malfunction, Other	47	
731	Sprinkler activation due to malfunction	5	
732	Extinguishing system activation due to malfunction	1	
733	Smoke detector activation due to malfunction	41	
734	Heat detector activation due to malfunction	12	
735	Alarm system sounded due to malfunction	26	
740	Unintentional transmission of alarm, Other	12	
741	Sprinkler activation, no fire - unintentional	1	
742	Extinguishing system activation	1	
743	Smoke detector activation, no fire - unintentional	20	
744	Detector activation, no fire - unintentional	19	
745	Alarm system activation, no fire - unintentional	29	
		508	
300	Rescue, EMS incident, other	1	
3001	MVA W/O injuries	44	
3002	Facility Transfer	177	
3003	Facility Transfer (Cancelled)	1	
311	Medical assist, assist EMS crew	1	



3111	In home or business assist no transport	15
3112	Assist other medical transporting service	18
3113	Non LAFD ambulance intercepts	2
3114	Return to Patients Home	23
321	EMS call, excluding vehicle accident with injury	3
3211	Behavioral	27
3212	Cardiac	100
3213	Diabetic Emergency	18
3214	Respiratory	46
3215	Seizure / CVA	40
3216	Syncopal Episode	40
3217	Trauma	174
3218	Allergic Reaction	7
3219	Other medical emergency	178
322	Motor vehicle accident with injuries	12
3221	Vehicle/Vehicle	54
3222	Vehicle/fixed object	21
3224	Vehicle rollover	10
323	Motor vehicle/pedestrian accident (MV Ped)	1
3232	Motor vehicle/pedestrian accident (MV Ped) <18 Yrs	2
3233	Motor vehicle/pedestrian accident (MV Ped) >18 Yrs	2
3234	Motor vehicle/bicycle	3
371	Electrocution or potential electrocution	1
381	Rescue or EMS standby	9
		1030
331	Lock-in (if lock out , use 511)	3
350	Extrication, rescue, Other	1
352	Extrication of victim(s) from vehicle	4
353	Removal of victim(s) from stalled elevator	5
356	High-angle rescue	3
555	Defective elevator, no occupants	2
		18
400	Hazardous condition, Other	4
410	Combustible/flammable gas/liquid condition, other	3
411	Gasoline or other flammable liquid spill	8
412	Gas leak (natural gas or LPG)	3
413	Oil or other combustible liquid spill	2
421	Chemical hazard (no spill or leak)	1
422	Chemical spill or leak	7
424	Carbon monoxide incident	1
463	Vehicle accident, general cleanup	2
471	Explosive, bomb removal (for bomb scare, use 721)	1
671	HazMat release investigation w/no HazMat	2
736	CO detector activation due to malfunction	4
746	Carbon monoxide detector activation, no CO	4
		42
500	Service Call, other	30
5001	Extreme fire danger standby	3
510	Person in distress, Other	4
511	Lock-out	2
520	Water problem, Other	3
522	Water or steam leak	5
531	Smoke or odor removal	11



550	Public service assistance, Other	13
551	Assist police or other governmental agency	1
553	Public service	6
		78
571	Cover assignment, standby, moveup	7
900	Special type of incident, Other	7
		14
814	Lightning strike (no fire)	4

Type	Descript	Type count	Key
100	Fire, Other	25	Fire
1001	Shot Activity W/ Fire	4	Rescue
111	Building fire	9	Hazmat
			Public
112	Fires in structure other than in a building	1	Assist
113	Cooking fire, confined to container	4	Other
114	Chimney or flue fire, confined to chimney or flue	4	Weather
130	Mobile property (vehicle) fire, Other	5	
131	Passenger vehicle fire	2	
138	Off-road vehicle or heavy equipment fire	1	
140	Natural vegetation fire, Other	4	
141	Forest, woods or wildland fire	9	
142	Brush or brush-and-grass mixture fire	7	
143	Grass fire	5	
150	Outside rubbish fire, Other	1	
151	Outside rubbish, trash or waste fire	1	
154	Dumpster or other outside trash receptacle fire	4	
160	Special outside fire, Other	1	
162	Outside equipment fire	1	
211	Overpressure rupture of steam pipe or pipeline	1	
2411	Shot Activity	28	
251	Excessive heat, scorch burns with no ignition	5	
440	Electrical wiring/equipment problem, Other	3	
441	Heat from short circuit (wiring), defective/worn	1	
442	Overheated motor	1	
443	Breakdown of light ballast	3	
445	Arcing, shorted electrical equipment	1	
460	Accident, potential accident, Other	3	
462	Aircraft standby	1	
471	Explosive, bomb removal (for bomb scare, use 721)	4	
600	Good intent call, Other	9	
611	Dispatched & cancelled en route	2	
622	No Incident found on arrival at dispatch address	3	
631	Authorized controlled burning	1	
632	Prescribed fire	1	
650	Steam, Other gas mistaken for smoke, Other	1	
651	Smoke scare, odor of smoke	7	
652	Steam, vapor, fog or dust thought to be smoke	2	
700	False alarm or false call, Other	131	
710	Malicious, mischievous false call, Other	1	
713	Telephone, malicious false alarm	1	



715	Local alarm system, malicious false alarm	1
721	Bomb scare - no bomb	8
730	System malfunction, Other	58
731	Sprinkler activation due to malfunction	5
732	Extinguishing system activation due to malfunction	2
733	Smoke detector activation due to malfunction	21
734	Heat detector activation due to malfunction	6
735	Alarm system sounded due to malfunction	35
740	Unintentional transmission of alarm, Other	11
741	Sprinkler activation, no fire - unintentional	1
743	Smoke detector activation, no fire - unintentional	31
744	Detector activation, no fire - unintentional	21
745	Alarm system activation, no fire - unintentional	46
		544
3001	MVA W/O injuries	32
3002	Facility Transfer	89
3111	In home or business assist no transport	16
3112	Assist other medical transporting service	19
3113	Non LAFD ambulance intercepts	3
3114	Return to Patients Home	34
3115	POV Intercept	1
321	EMS call, excluding vehicle accident with injury	2
3210	DOA	9
3211	Behavioral	41
3212	Cardiac	80
3213	Diabetic Emergency	14
3214	Respiratory	46
3215	Seizure / CVA	34
3216	Syncopal Episode	33
3217	Trauma	137
3218	Allergic Reaction	3
3219	Other medical emergency	220
3221	Vehicle/Vehicle	53
3222	Vehicle/fixed object	25
3223	Vehicle/animal	2
3224	Vehicle rollover	17
3233	Motor vehicle/pedestrian accident (MV Ped) >18 Yrs	4
3234	Motor vehicle/bicycle	4
324	Motor Vehicle Accident with no injuries	21
661	EMS call, party transported by non-fire agency	3
		942
331	Lock-in (if lock out , use 511)	1
350	Extrication, rescue, Other	3
351	Extrication of victim(s) from building/structure	1
352	Extrication of victim(s) from vehicle	5
353	Removal of victim(s) from stalled elevator	3
356	High-angle rescue	2
357	Extrication of victim(s) from machinery	1
381	Rescue or EMS standby	26
		42
400	Hazardous condition, Other	7
410	Combustible/flammable gas/liquid condition, other	2
411	Gasoline or other flammable liquid spill	7



412	Gas leak (natural gas or LPG)	7
413	Oil or other combustible liquid spill	2
422	Chemical spill or leak	1
424	Carbon monoxide incident	2
671	HazMat release investigation w/no HazMat	1
736	CO detector activation due to malfunction	3
746	Carbon monoxide detector activation, no CO	4
		36
500	Service Call, other	69
5001	Extreme fire danger standby	3
510	Person in distress, Other	3
511	Lock-out	1
522	Water or steam leak	4
531	Smoke or odor removal	18
550	Public service assistance, Other	8
551	Assist police or other governmental agency	4
552	Police matter	1
553	Public service	12
554	Assist invalid	1
555	Defective elevator, no occupants	5
561	Unauthorized burning	5
		134
571	Cover assignment, standby, moveup	20
900	Special type of incident, Other	13
911	Citizen complaint	3
		36
800	Severe weather or natural disaster, Other	1
814	Lightning strike (no fire)	1
		2

Type	Descript	Type count	Key
1001	Shot Activity W/ Fire	8	Fire
111	Building fire	4	Rescue
113	Cooking fire, confined to container	5	Hazmat
			Public
114	Chimney or flue fire, confined to chimney or flue	2	Assist
118	Trash or rubbish fire, contained	1	Other
123	Fire in portable building, fixed location	1	Weather
131	Passenger vehicle fire	3	
140	Natural vegetation fire, Other	2	
141	Forest, woods or wildland fire	9	
142	Brush or brush-and-grass mixture fire	10	
143	Grass fire	3	
150	Outside rubbish fire, Other	2	
151	Outside rubbish, trash or waste fire	1	
154	Dumpster or other outside trash receptacle fire	3	
1601	Shot Activity W/Fire	4	
1611	Organic Materials	2	
200	Overpressure rupture, explosion, overheat other	1	
211	Overpressure rupture of steam pipe or pipeline	2	
223	Air or gas rupture of pressure or process vessel	1	
2411	Shot Activity	134	



440	Electrical wiring/equipment problem, Other	5
441	Heat from short circuit (wiring), defective/worn	3
443	Breakdown of light ballast	1
444	Power line down	3
445	Arcing, shorted electrical equipment	3
460	Accident, potential accident, Other	1
462	Aircraft standby	1
471	Explosive, bomb removal (for bomb scare, use 721)	1
480	Attempted burning, illegal action, Other	1
561	Unauthorized burning	11
5712	Shot Activity Station Standby	14
600	Good intent call, Other	5
611	Dispatched & cancelled en route	10
622	No Incident found on arrival at dispatch address	2
631	Authorized controlled burning	2
632	Prescribed fire	9
650	Steam, Other gas mistaken for smoke, Other	1
651	Smoke scare, odor of smoke	23
652	Steam, vapor, fog or dust thought to be smoke	2
653	Smoke from barbecue, tar kettle	4
6531	Legal Private Residence Campfire	1
700	False alarm or false call, Other	67
710	Malicious, mischievous false call, Other	3
721	Bomb scare - no bomb	10
730	System malfunction, Other	48
731	Sprinkler activation due to malfunction	5
733	Smoke detector activation due to malfunction	17
734	Heat detector activation due to malfunction	14
735	Alarm system sounded due to malfunction	72
740	Unintentional transmission of alarm, Other	10
741	Sprinkler activation, no fire - unintentional	5
743	Smoke detector activation, no fire - unintentional	31
744	Detector activation, no fire - unintentional	7
745	Alarm system activation, no fire - unintentional	47
746	Carbon monoxide detector activation, no CO	5
		642
3001	MVA W/O injuries	27
3002	Facility Transfer	175
3003	Facility Transfer (Cancelled)	4
3111	In home or business assist no transport	37
3112	Assist other medical transporting service	19
3113	Non LAFD ambulance intercepts	4
3114	Return to Patients Home	45
3210	DOA	11
3211	Behavioral	32
3212	Cardiac	87
3213	Diabetic Emergency	28
3214	Respiratory	70
3215	Seizure / CVA	37
3216	Syncopal Episode	70
3217	Trauma	186
3218	Allergic Reaction	11
3219	Other medical emergency	188



3221	Vehicle/Vehicle	29
3222	Vehicle/fixed object	22
3224	Vehicle rollover	6
3232	Motor vehicle/pedestrian accident (MV Ped) <18 Yrs	3
3233	Motor vehicle/pedestrian accident (MV Ped) >18 Yrs	3
3234	Motor vehicle/bicycle	6
324	Motor Vehicle Accident with no injuries	10
661	EMS call, party transported by non-fire agency	2
		1112
350	Extrication, rescue, Other	1
351	Extrication of victim(s) from building/structure	1
352	Extrication of victim(s) from vehicle	1
353	Removal of victim(s) from stalled elevator	8
356	High-angle rescue	3
361	Swimming/recreational water areas rescue	1
381	Rescue or EMS standby	19
		34
400	Hazardous condition, Other	8
410	Combustible/flammable gas/liquid condition, other	1
411	Gasoline or other flammable liquid spill	5
412	Gas leak (natural gas or LPG)	4
420	Toxic condition, Other	1
421	Chemical hazard (no spill or leak)	1
422	Chemical spill or leak	2
424	Carbon monoxide incident	5
671	HazMat release investigation w/no HazMat	4
736	CO detector activation due to malfunction	6
		37
500	Service Call, other	34
5001	Extreme fire danger standby	6
5002	Confined Space Standby	5
510	Person in distress, Other	7
511	Lock-out	1
520	Water problem, Other	2
522	Water or steam leak	6
531	Smoke or odor removal	18
542	Animal rescue	2
550	Public service assistance, Other	6
551	Assist police or other governmental agency	1
552	Police matter	1
553	Public service	5
555	Defective elevator, no occupants	12
		106
		1
571	Cover assignment, standby, moveup	18
900	Special type of incident, Other	4
9002	Fire Department Participation Drill	9
911	Citizen complaint	2
		34
800	Severe weather or natural disaster, Other	1
812	Flood assessment	1
814	Lightning strike (no fire)	1
		3



Type	Descript	Type count	Key
100	Fire, Other	2	Fire
1001	Shot Activity W/ Fire	1	Rescue
111	Building fire	3	Hazmat
112	Fires in structure other than in a building	2	Public
113	Cooking fire, confined to container	10	Assist
114	Chimney or flue fire, confined to chimney or flue	1	Other
131	Passenger vehicle fire	5	Weather
138	Off-road vehicle or heavy equipment fire	2	
140	Natural vegetation fire, Other	4	
141	Forest, woods or wildland fire	10	
142	Brush or brush-and-grass mixture fire	6	
143	Grass fire	3	
150	Outside rubbish fire, Other	1	
151	Outside rubbish, trash or waste fire	4	
154	Dumpster or other outside trash receptacle fire	1	
160	Special outside fire, Other	4	
1601	Shot Activity W/Fire	3	
173	Cultivated trees or nursery stock fire	1	
2411	Shot Activity	125	
251	Excessive heat, scorch burns with no ignition	1	
440	Electrical wiring/equipment problem, Other	7	
442	Overheated motor	1	
444	Power line down	1	
445	Arcing, shorted electrical equipment	2	
460	Accident, potential accident, Other	2	
463	Vehicle accident, general cleanup	2	
4631	Vehicle accident, Micro Blaze Application	1	
471	Explosive, bomb removal (for bomb scare, use 721)	1	
561	Unauthorized burning	3	
5611	Unattended Campfire	1	
5712	Shot Activity Station Standby	22	
600	Good intent call, Other	5	
611	Dispatched & cancelled en route	7	
622	No Incident found on arrival at dispatch address	9	
631	Authorized controlled burning	6	
632	Prescribed fire	9	
650	Steam, Other gas mistaken for smoke, Other	2	
651	Smoke scare, odor of smoke	23	
652	Steam, vapor, fog or dust thought to be smoke	2	
653	Smoke from barbecue, tar kettle	1	
700	False alarm or false call, Other	36	
713	Telephone, malicious false alarm	1	
721	Bomb scare - no bomb	3	
730	System malfunction, Other	20	
731	Sprinkler activation due to malfunction	8	
732	Extinguishing system activation due to malfunction	3	
733	Smoke detector activation due to malfunction	18	
734	Heat detector activation due to malfunction	6	
735	Alarm system sounded due to malfunction	94	
740	Unintentional transmission of alarm, Other	18	



741	Sprinkler activation, no fire - unintentional	12
742	Extinguishing system activation	2
743	Smoke detector activation, no fire - unintentional	31
744	Detector activation, no fire - unintentional	10
745	Alarm system activation, no fire - unintentional	55
7451	Pull Station, no fire - unintentional	2
		615
3001	MVA W/O injuries	21
3002	Facility Transfer	135
3003	Facility Transfer (Cancelled)	1
3111	In home or business assist no transport	67
3112	Assist other medical transporting service	20
3113	Non LAFD ambulance intercepts	4
3114	Return to Patients Home	63
321	EMS call, excluding vehicle accident with injury	1
3210	DOA	13
3211	Behavioral	27
3212	Cardiac	83
3213	Diabetic Emergency	18
3214	Respiratory	62
3215	Seizure / CVA	54
3216	Syncopal Episode	48
3217	Trauma	175
3218	Allergic Reaction	8
3219	Other medical emergency	240
3221	Vehicle/Vehicle	43
3222	Vehicle/fixed object	23
3223	Vehicle/animal	4
3224	Vehicle rollover	16
3232	Motor vehicle/pedestrian accident (MV Ped) <18 Yrs	2
3233	Motor vehicle/pedestrian accident (MV Ped) >18 Yrs	2
3234	Motor vehicle/bicycle	3
324	Motor Vehicle Accident with no injuries	10
371	Electrocution or potential electrocution	1
661	EMS call, party transported by non-fire agency	1
		1145
331	Lock-in (if lock out , use 511)	1
340	Search for lost person, other	1
341	Search for person on land	2
350	Extrication, rescue, Other	3
352	Extrication of victim(s) from vehicle	2
353	Removal of victim(s) from stalled elevator	8
356	High-angle rescue	1
381	Rescue or EMS standby	9
		27
400	Hazardous condition, Other	1
411	Gasoline or other flammable liquid spill	4
412	Gas leak (natural gas or LPG)	11
413	Oil or other combustible liquid spill	1
421	Chemical hazard (no spill or leak)	3
422	Chemical spill or leak	2
424	Carbon monoxide incident	2
671	HazMat release investigation w/no HazMat	1



736	CO detector activation due to malfunction	8
746	Carbon monoxide detector activation, no CO	3
		36
500	Service Call, other	11
5002	Confined Space Standby	3
5003	Odor Check no Gas Found	2
510	Person in distress, Other	3
520	Water problem, Other	3
521	Water evacuation	1
531	Smoke or odor removal	12
540	Animal problem, Other	1
542	Animal rescue	1
550	Public service assistance, Other	5
551	Assist police or other governmental agency	2
5511	Haz Mat Standby No exposure	3
552	Police matter	1
553	Public service	2
554	Assist invalid	1
555	Defective elevator, no occupants	36
		87
		5
571	Cover assignment, standby, moveup	3
900	Special type of incident, Other	6
9001	Large Event Coverage	3
9002	Fire Department Participation Drill	6
		23
800	Severe weather or natural disaster, Other	1
814	Lightning strike (no fire)	9
		10

Type	Descript	Type count	Key
100	Fire, Other	6	Fire
111	Building fire	3	Rescue
113	Cooking fire, confined to container	6	Hazmat
			Public
114	Chimney or flue fire, confined to chimney or flue	1	Assist
115	Incinerator overload or malfunction, fire confined	1	Other
130	Mobile property (vehicle) fire, Other	1	Weather
131	Passenger vehicle fire	5	
132	Road freight or transport vehicle fire	1	
138	Off-road vehicle or heavy equipment fire	1	
140	Natural vegetation fire, Other	1	
141	Forest, woods or wildland fire	6	
142	Brush or brush-and-grass mixture fire	5	
143	Grass fire	1	
150	Outside rubbish fire, Other	2	
151	Outside rubbish, trash or waste fire	1	
154	Dumpster or other outside trash receptacle fire	4	
160	Special outside fire, Other	4	
1601	Shot Activity W/Fire	2	
162	Outside equipment fire	2	
210	Overpressure rupture from steam, Other	1	



231	Chemical reaction rupture of process vessel	1
240	Explosion (no fire), Other	1
2411	Shot Activity	137
251	Excessive heat, scorch burns with no ignition	3
440	Electrical wiring/equipment problem, Other	1
441	Heat from short circuit (wiring), defective/worn	2
442	Overheated motor	2
443	Breakdown of light ballast	1
444	Power line down	3
445	Arcing, shorted electrical equipment	2
460	Accident, potential accident, Other	1
471	Explosive, bomb removal (for bomb scare, use 721)	1
480	Attempted burning, illegal action, Other	1
555	Defective elevator, no occupants	16
561	Unauthorized burning	4
5712	Shot Activity Station Standby	8
611	Dispatched & cancelled en route	7
621	Wrong location	1
622	No Incident found on arrival at dispatch address	9
631	Authorized controlled burning	4
632	Prescribed fire	4
650	Steam, Other gas mistaken for smoke, Other	2
651	Smoke scare, odor of smoke	20
652	Steam, vapor, fog or dust thought to be smoke	3
6532	Legal County Property Campfire	1
700	False alarm or false call, Other	3
710	Malicious, mischievous false call, Other	1
721	Bomb scare - no bomb	1
730	System malfunction, Other	39
731	Sprinkler activation due to malfunction	4
733	Smoke detector activation due to malfunction	22
734	Heat detector activation due to malfunction	4
735	Alarm system sounded due to malfunction	63
740	Unintentional transmission of alarm, Other	17
7401	wrong information given to dispatch	1
741	Sprinkler activation, no fire - unintentional	4
743	Smoke detector activation, no fire - unintentional	34
744	Detector activation, no fire - unintentional	15
745	Alarm system activation, no fire - unintentional	37
7451	Pull Station, no fire - unintentional	11
		545
3001	MVA W/O injuries	12
3002	Facility Transfer	195
3003	Facility Transfer (Cancelled)	5
3111	In home or business assist no transport	37
3112	Assist other medical transporting service	22
3113	Non LAFD ambulance intercepts	1
3114	Return to Patients Home	39
3115	POV Intercept	1
3210	DOA	15
3211	Behavioral	51
3212	Cardiac	96
3213	Diabetic Emergency	27



3214	Respiratory	89
3215	Seizure / CVA	51
3216	Syncopal Episode	52
3217	Trauma	211
3218	Allergic Reaction	11
3219	Other medical emergency	234
3221	Vehicle/Vehicle	27
3222	Vehicle/fixed object	22
3224	Vehicle rollover	6
3232	Motor vehicle/pedestrian accident (MV Ped) <18 Yrs	4
3233	Motor vehicle/pedestrian accident (MV Ped) >18 Yrs	3
3234	Motor vehicle/bicycle	2
324	Motor Vehicle Accident with no injuries	10
		1223
341	Search for person on land	1
342	Search for person in water	1
353	Removal of victim(s) from stalled elevator	9
355	Confined space rescue	1
381	Rescue or EMS standby	6
		18
400	Hazardous condition, Other	7
410	Combustible/flammable gas/liquid condition, other	3
411	Gasoline or other flammable liquid spill	7
412	Gas leak (natural gas or LPG)	8
413	Oil or other combustible liquid spill	1
420	Toxic condition, Other	2
421	Chemical hazard (no spill or leak)	3
422	Chemical spill or leak	4
424	Carbon monoxide incident	2
451	Biological hazard, confirmed or suspected	1
463	Vehicle accident, general cleanup	1
4631	Vehicle accident, Micro Blaze Application	1
736	CO detector activation due to malfunction	4
746	Carbon monoxide detector activation, no CO	7
		51
500	Service Call, other	23
5002	Confined Space Standby	2
5003	Odor Check no Gas Found	13
510	Person in distress, Other	3
520	Water problem, Other	4
522	Water or steam leak	5
531	Smoke or odor removal	18
541	Animal problem	1
550	Public service assistance, Other	9
551	Assist police or other governmental agency	2
5511	Haz Mat Standby No exposure	1
553	Public service	5
554	Assist invalid	1
		87
		3
571	Cover assignment, standby, moveup	5
900	Special type of incident, Other	5



9001	Large Event Coverage	2
9002	Fire Department Participation Drill	8
911	Citizen complaint	2
		25
813	Wind storm, tornado/hurricane assessment	2
814	Lightning strike (no fire)	3
		5

E.4 Station by Month

	Sta-1	Sta-3	Sta-4	Sta-5	Sta-6
January	359	140	164	54	273
February	353	123	167	57	234
March	354	139	181	75	280
April	291	138	134	87	287
May	354	151	176	129	301
June	361	147	171	145	301
July	417	169	211	179	374
August	408	161	181	164	367
September	354	140	174	109	311
October	409	130	162	87	292
November	312	104	128	65	253
December	277	131	150	49	236
	4249	1673	1999	1200	3509
					12630

E.5 Day of the Week by Station

	Sta-1	Sta-3	Sta-4	Sta-5	Sta-6	Out of District	Unknown
Sunday	483	216	201	53	387	41	1
Monday	651	250	305	98	479	31	14
Tuesday	677	275	270	173	536	38	2
Wednesday	877	246	294	207	437	32	0
Thursday	784	256	268	182	589	37	0
Friday	670	185	263	159	518	24	0
Saturday	531	202	209	42	420	58	2
	4673	1630	1810	914	3366	261	19
							12673

E.5 This data can be substantiated upon request.

E.6 Time of Alarm Station 1

Los Alamos County

Alarm Time Analysis

Alarm Date Between {01/01/2003} And {11/17/2009}
and District In "1-4 " ,"1-5 " ,"1-6 "

Alarm Hour	Count	Percent
00:00	88	2.00%
01:00	86	1.95%
02:00	74	1.68%
03:00	51	1.16%
04:00	51	1.16%
05:00	63	1.43%
06:00	99	2.25%
07:00	158	3.59%
08:00	271	6.17%
09:00	280	6.37%
10:00	284	6.46%
11:00	289	6.58%
12:00	287	6.53%
13:00	353	8.04%
14:00	303	6.90%
15:00	299	6.81%
16:00	276	6.28%
17:00	240	5.46%
18:00	198	4.51%
19:00	167	3.80%
20:00	136	3.09%
21:00	122	2.77%
22:00	118	2.68%
23:00	97	2.20%

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Technical
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Program

E.6 Time of Alarm Station 3

Los Alamos County

Alarm Time Analysis

Alarm Date Between {01/01/2003} And {11/17/2009}
and District In "3-1 " ,"3-1E " ,"3-5E " ,"3-6 "

Alarm Hour	Count	Percent
00:00	39	2.28%
01:00	39	2.28%
02:00	35	2.05%
03:00	16	0.93%
04:00	20	1.17%
05:00	44	2.57%
06:00	35	2.05%
07:00	61	3.57%
08:00	111	6.50%
09:00	108	6.32%
10:00	118	6.91%
11:00	101	5.91%
12:00	113	6.61%
13:00	98	5.74%
14:00	99	5.79%
15:00	74	4.33%
16:00	91	5.33%
17:00	84	4.92%
18:00	89	5.21%
19:00	77	4.51%
20:00	75	4.39%
21:00	57	3.33%
22:00	72	4.21%
23:00	51	2.98%

E.6 Time of Alarm Station 4

Los Alamos County

Alarm Time Analysis

Alarm Date Between {01/01/2003} And {11/17/2009}
and District = "4-1 "

Alarm Hour	Count	Percent
00:00	42	2.36%
01:00	39	2.19%
02:00	41	2.30%
03:00	19	1.07%
04:00	26	1.46%
05:00	25	1.40%
06:00	37	2.08%
07:00	62	3.49%
08:00	92	5.18%
09:00	96	5.40%
10:00	98	5.52%
11:00	89	5.01%
12:00	98	5.52%
13:00	99	5.57%
14:00	95	5.35%
15:00	118	6.64%
16:00	107	6.02%
17:00	110	6.19%
18:00	95	5.35%
19:00	105	5.91%
20:00	90	5.07%
21:00	82	4.61%
22:00	75	4.22%
23:00	35	1.97%

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E.6 Time of Alarm Station 5

Los Alamos County

Alarm Time Analysis

Alarm Date Between {01/01/2003} And {11/17/2009}
and District In "5-1 " ,"5-1E " ,"5-3E "

Alarm Hour	Count	Percent
00:00	10	0.88%
01:00	9	0.79%
02:00	3	0.26%
03:00	4	0.35%
04:00	11	0.97%
05:00	12	1.06%
06:00	15	1.33%
07:00	38	3.37%
08:00	157	13.93%
09:00	132	11.71%
10:00	133	11.80%
11:00	113	10.02%
12:00	79	7.00%
13:00	103	9.13%
14:00	71	6.29%
15:00	82	7.27%
16:00	45	3.99%
17:00	27	2.39%
18:00	20	1.77%
19:00	15	1.33%
20:00	13	1.15%
21:00	11	0.97%
22:00	18	1.59%
23:00	6	0.53%



E.6 Time of Alarm Station 6

Los Alamos County

Alarm Time Analysis

Alarm Date Between {01/01/2003} And {11/17/2009}
and District = "6-1 "

Alarm Hour	Count	Percent
00:00	68	2.00 %
01:00	62	1.83 %
02:00	60	1.77 %
03:00	46	1.35 %
04:00	36	1.06 %
05:00	51	1.50 %
06:00	67	1.97 %
07:00	138	4.07 %
08:00	210	6.20 %
09:00	196	5.79 %
10:00	231	6.82 %
11:00	219	6.47 %
12:00	212	6.26 %
13:00	228	6.73 %
14:00	211	6.23 %
15:00	198	5.85 %
16:00	177	5.23 %
17:00	223	6.58 %
18:00	162	4.78 %
19:00	161	4.75 %
20:00	145	4.28 %
21:00	99	2.92 %
22:00	105	3.10 %
23:00	79	2.33 %